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MODERN TRANSPORT

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See Page 3

VOL. LXXXI No. 2089 [Registered at the G.P.O. as a newspaper] LONDON, APRIL 11, 1959 PRICE NINEPENCE

CURRENT TOPICS

Railway Students' Golden Jubilee

LAST weekend was a strenuous one for members of the Railway Students Association of the London School of Economics; they marked their golden jubilee by a round of visits, two dinner parties and a notable paper on railway modernisation by Major-General Wansbrough-Jones, secretary-general of the British Transport Commission. On April 3 the R.S.A. were guests of the London School of Economics and Sir Sidney Caine, director of the L.S.E., in welcoming them pointed out that there had been courses on railway subjects in 1895, at the very beginning of the school's history. They had ceased to offer special railway courses recently because of the development of other means of study. The more technical aspects had been increasingly taken over by the Institute of Transport examination courses, but they had not lost interest. Two broad fields in which they continued were attention to the training of ordinary undergraduates who would join the railway service and the academic study of the basic problems of transport; Mr. G. J. Ponsonby was reader in transport economics and Sir Sidney wished they had the resources to triplicate him to extend their activities in disinterested research. He hoped they would always be connected with railwaymen and with students of railway problems. In response, Mr. A. B. B. Valentine, president of the R.S.A., said the members found the L.S.E. interest in them touching and gratifying. The changes in relationship in 1957 were sad but must be accepted; there were exceptional numbers seeking university education and the need for education in commerce had to be kept in mind. The R.S.A. might have to link up with the railway debating societies or with the graduate and student activities of the Institute of Transport and he would not be sorry if they devoted attention to other means of transport than railways. But the enthusiasm of members and the devot'on of their officers was something that must be built on. The railways had led the country in providing for staff and graduates in one training scheme from 1906 onward; they still needed the help of the universities in finding the right men for leadership. He concluded by thanking the school for its benevo'ence towards the R.S.A., which they hoped would continue to be a body of which the L.S.E. could be proud.

A Social Occasion

CELEBRATING for themselves on Monday of this week, the R.S.A. held a golden jubilee dinner and dance at the Chatham Rooms, Victoria Station. The emphasis was on this occasion more social than formal. Proposing "The Railway Students Association," Mr. G. J. Ponsonby paid tribute to the pioneers and to the honorary officers past and present. Those who founded the association and supported it in its early years had done their job well and he was sure that its future was bright. There had never been a time when education in transport had been so vital. The business now required most up-to-date knowledge of all its branches. Replying to the toast, Mr. David Blee also stressed the value of education in the industry and added that the transport man who thought he knew it all should have retired the day before. In fact, what they had learned as students in their day was now essentially of the past and there was the task of assimilating the knowledge needed for today. There could never have been more challenging times than the present. The recent endeavours of British Railways in the freight field seemed to have created alarm among competitors and now customers were beginning to appreciate what was available in the way of door-to-door transport. Critics pointed to the drop in revenue, but that was a small percentage of total earnings and they had not started to reap the benefits of modernisation. The president, Mr. A. B. B. Valentine, proposing the toast of "The Ladies and Visitors," read a congratulatory message from Mr. David R. Lamb, a founder member of the R.S.A. and chairman of MODERN TRANSPORT Publishing Co., Limited. Mr. B. W. C. Cooke, Editor of the *Railway Gazette*, replied and suggested that in modern conditions and with resultant change of approach of the London School of Economics there might well have to be some reorientation of the work and aims of the R.S.A. in order that it could have that broader field of thought which present-day circumstances required. A pleasant and unexpected event followed when representatives of the Swiss Federal Railways and the Netherlands Railways who had been attending the jubilee celebrations formally presented the association with books about their undertakings. There were in all 18 participants from foreign administrations.

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Channel Tunnel Investigation

INVESTIGATIONS into possible routes for the Channel Tunnel are being resumed immediately by a British firm commissioned by the Channel Tunnel Study Group to obtain specimens of rock from depths as much as 200 ft. below the sea-bed. The object is to confirm the 1958 geophysical survey made at sea by an American company using electronic equipment. Although the survey, to be completed this summer, shows remarkable agreement with a French survey made in the last century, it is felt necessary to make an additional check by obtaining actual soil samples from boreholes; these will be sunk from a floating craft by the Central Laboratory of George Wimpey and Co., Limited. This company's method, pioneered in the Arabian Gulf, makes it unnecessary to construct the usual drilling platforms which cost up to a quarter of a million pounds each. The contract for the work was won in the face of international competition when a variety of suggestions for boring beneath the sea was put forward. The Wimpey organisation was chosen after Channel Tunnel Study Group officials had watched a Wimpey team sinking off-shore boreholes in connection with the sea-water intake and outlet of the proposed nuclear power station at Dungeness.

Finding the Route

UNDER the Channel are three layers of chalk beneath which lie gault clay and then greensand filled with water which exerts an upward pressure. Only the lowest layer of chalk is impermeable and the object is to find a route where this layer of chalk is fault-free and thick enough to ensure safe tunnelling. The ship to be used is the *Ian Salvor III*, a specially fitted shallow-draft tank landing craft, which sailed from Dover on April 3 equipped with a boring platform cantilevered over the side and the necessary mooring winches. The present work, for which permission had to be obtained from the Ministry of Transport and Civil Aviation on account of shipping, will continue day and night unless interrupted by particularly bad weather. The borehole positions will be selected on instructions from the Channel Study Group engineers by the Decca Radar system and checked by optical survey to landmarks. Borings will be by diamond drilling through a lining tube entered into the sea bed. In rougher weather percussion methods might be used. It is proposed to remove 6-in. cores of undisturbed rock for laboratory analysis. Other tests will include pumping water into the borehole to test absorption at various levels and logging by the Schlumberger method much used in oil-well drilling, which involves lowering special equipment down the borehole to record the various properties of the soil. After the tests are complete the boreholes will be cement grouted to prevent the entry of water through the boreholes on the ultimate route chosen for the tunnel.

New Exhibition—New Venue

CHOICE of Alexandra Palace, on the complete interior rehabilitation of which more than half a million pounds has recently been spent, as the venue for a new industrial exhibition and convention to be held in the autumn is appropriate. Not the least advantage of the site, which will be welcomed by the many who will wish to travel to the exhibition in their own cars, is the near-at-hand parking space for about 4,000 vehicles and its proximity to the North Circular Road, while exhibitors will be glad of the opportunity afforded by the attractive and extensive grounds for providing practical demonstrations under working conditions of the equipment shown on indoor stands. The new exhibition, which is being organised by Macfarlane Watson, Limited, 36 Beauchamp Place, London, S.W.3, is the Pneumatics and Hydraulics for Industry Exhibition and Convention, which will be held from October 12 to 16 next. Emphasis will be given to the place of pneumatics and hydraulics in control equipment, of which there are now over 100 manufacturers in this country, apart from the 400 or so producers of equipment ancillary to this rapidly expanding industry. The convention will hear and discuss papers presented by speakers from the United Kingdom, the Continent and the United States of America during the first four days, while the final day will be devoted to the inaugural meeting of a new society to be known as the Fluid Power Association.

Transport Museum at Beaulieu

AMIDST all the trappings of television Lord Brabazon of Tara on April 5 opened the enlarged Montagu Motor Museum at Beaulieu and at the same time paid tribute to the work done by the second Lord Montagu of Beaulieu in the cause of the motor vehicle early in the century. Inheriting a love of motors from his father, the present Lord Montagu, who somewhat tentatively established an exhibition of vintage and veteran cars as recently as 1952, has now provided those interested with a wonderful museum of cars and motor cycles. The new premises cost £25,000 to erect and are crammed with interest. The museum is intended to be a live one; as many vehicles as possible will be kept ready to run on the roads and plans for loans and visits to suitable venues by the museum pieces are being actively developed. Still in the embryonic stage is a general transport museum; there are no buses of importance, but a beginning has been made with some small lorries, including an Albion 10-cwt. of 1914 and a Dennis 30-cwt. G-type of 1930. Ferodo contributes the beginnings of a component museum, with the history of brake linings from Herbert Frood's experiments of 1897 to the present-day friction materials. There are also two tramcars on loan from the Tramway Museum Society—a Southampton Corporation knifeboard of 1900 and a Newcastle Corporation bogie car with Brush body which dates from 1902. Railfans will wish the B.T.C. museum department had made as much progress in seven years.

Something in the Budget

CONFIDENCE and a steady rate of advance rather than a spending spree Budget was the note sounded by Mr. Heathcoat Amory, Chancellor of the Exchequer, in opening his dispatch box on Tuesday. There is something in the Budget for many—a reduction in purchase tax on cars and complete abolition of the tax in the case of commercial vehicles; a minor adjustment in hydrocarbon oil taxation which nevertheless shows clearly there could be no administrative difficulty in helping the bus operator over diesel fuel tax; a reduction to perhaps one-third of excise duties on buses and coaches to make some slight amends for the severe disappointment of the absence of fuel tax adjustment; and, perhaps best fillip of all, something off income tax, abolition of corporation tax and restoration of investment allowances, even though it is a pity some intention to stabilise investment allowances over a long period cannot be indicated in order to maximise their utility to long-term industrial planning. The abolition of purchase tax on commercial vehicles is a valuable aid to industry and will be of great assistance to our manufacturers in developing export trade through giving a better background to the home sales position. With great enterprise at least one heavy vehicle builder has coupled the good news of the Budget with a reduction in basic chassis prices, so that the effect is to go a long way towards levelling up with the prices of mass-produced vehicles.

Benefits

THE effect of this is that the Leyland Comet has £50 deducted from the basic price and this, with over £400 off purchase tax, makes an overall reduction of nearly £500. On the Octopus eight-wheeler the basic chassis price is down by £100 and as purchase tax was just over £900 the operator now gets the benefit of a saving of rather more than £1,000. The annual licence duty on hackney carriages (other than tramcars) of over eight seats now becomes £12 initial charge plus 10s. for each seat in excess of 20, so that a 56-seat bus will incur a duty of £30 in lieu of £86 8s. The new rate is applicable from April 8 and a rebate on a monthly basis will be granted on licences taken out before that date. The hydrocarbon oil remission mainly affects auxiliary powered plant on a vehicle drawing fuel from a separate tank; vehicles which are unlicensed and are used off public roads; and road-construction machines. The existing initial allowance of 30 per cent on new plant and machinery is substituted as from April 7 by an initial allowance of 10 per cent and an investment allowance of 20 per cent. For industrial buildings the initial allowance of 15 per cent is reduced to 5 per cent and an investment allowance of 10 per cent will be made. On the "renewals" basis new plant and machinery will receive an investment allowance of 20 per cent on the capital expenditure.

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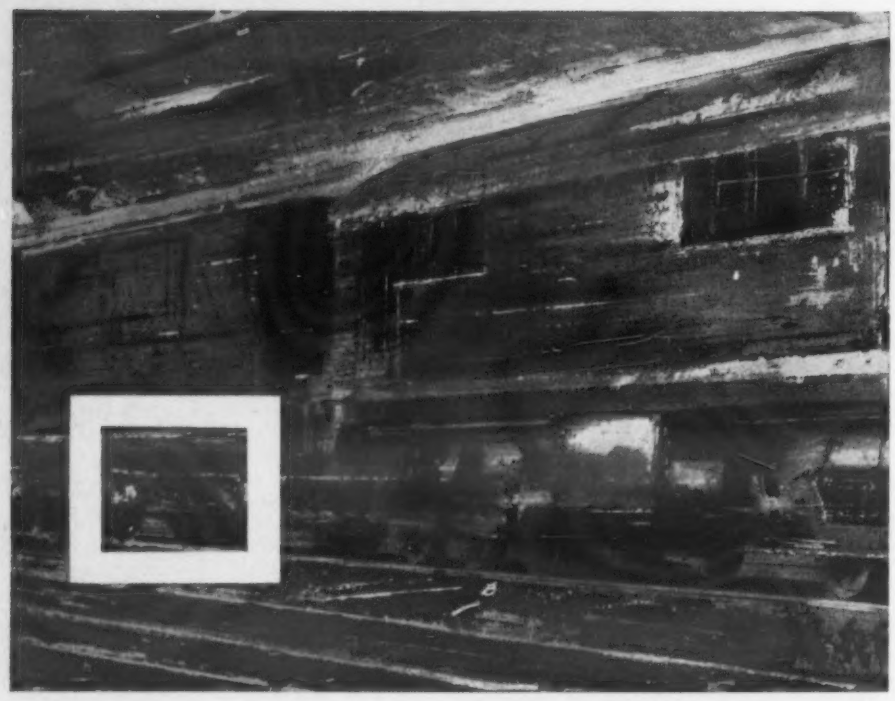
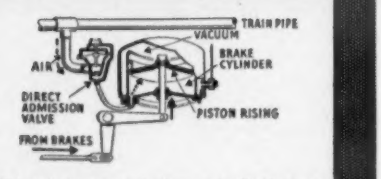


Freight travels first class these days at speeds comparable with the crack 'Royal Scot'. The reason why freight trains are running faster is, oddly enough, their brakes. Continuous vacuum brakes give them the same braking power as passenger trains. Result – they travel at *express* speeds safely and smoothly. Soon *all* freight trains on London Midland will have continuous brakes, because this Region is racing ahead with a speed-the-freight development plan which will cost many millions – and save many more. Already you will have seen signs of these developments. Diesel locomotives. Mechanical handling. The new streamlined Express Freight timetable. All London Midland Express Freight trains are *scheduled:* they assure next morning arrival at all important trading centres. The rates are keenly competitive. Make the most of them. Ask for the timetable and rates from your nearest London Midland Goods Agent or Station Master.



This is how vacuum brakes work. The brake blocks are connected to pistons which move in cylinders linked with the train pipe. An ejector on the engine creates a vacuum, releases the brakes. They are applied again by admitting air to the train pipe and destroying the vacuum.

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Telephone Number: TERminus 0303 (3 lines)
Telegraphic Address: Transpubco, Westcent, London

ANNUAL SUBSCRIPTIONS
BRITISH ISLES, 35/-; CANADA, 32/6;
ELSEWHERE ABROAD, 35/-
payable in advance and postage free

The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

★

Traders and Air Transport

IT was perhaps the irony of fate which caused the report of the working party of the Association of British Chambers of Commerce upon the air transport licensing system to appear on the same day that the British Overseas Airways Corporation announced suspension of a newly inaugurated transpacific air service. The latter event served to underline the procedural problems that precede international air transport operation and would certainly bedevil attempts to achieve the association's recommendation that there should be more than one British operator on each route. Some of the proposals are unexceptionable and it may be well to record these first. It is hard to see why independent operators should not operate services in their own right, rather than as associates of one or the other of the air corporations. This again is to some extent a matter of form evolved with an eye to international agreements and their provisions regarding nominated airlines. There is also a good deal to be said for reconstituting the Air Transport Advisory Council as a licensing body with statutory authority, and the Minister of Transport some five months ago thought aloud rather on those lines at the dinner of the British Independent Air Transport Association. It would then be possible to provide for appeals against decisions of the authority — another request of the A.B.C.C. report—in the way that public service vehicle operators may seek to overthrow decisions of the traffic commissioners.

One Ministry Enough

SO far, so good, but it becomes thereafter more difficult to agree with the views put forward, however much their good intentions are appreciated. The Ministry of Civil Aviation, it is claimed, should be re-established as a separate entity in order to encourage the development of air transport generally. This seems a thoroughly retrograde step. For years air transport seemed seriously under the impression that it was some unusual hothouse growth which merited special treatment and really bore only the slightest kinship to the hard commercial world of surface transport. This did not help the industry at all and it was a welcome sign of official appreciation of the realities that the Ministries of Transport and Civil Aviation were merged. Unfortunately, the action lost a certain amount of force by the retention of "and Civil Aviation" in the official title. If civil aviation is not transport, it should be; there can be no two ways about that. It is obvious the working party felt air transport to be receiving less than its proper share of attention and perhaps the Minister's feeling that civil aviation affairs were becoming "too complicated to be handled by the day-to-day procedures of my department in quite the same way as in the past" encouraged this view. It must be obvious that the ramifications of the air transport industry are growing and it may well be that the appropriate side of the Ministry will require reorganisation, but that is not to say that another department is needed. Provided that it is staffed by people with the necessary enthusiasm for their work, the section had far better stay where it is.

Combating Foreign Competition

WHEN it comes to the sharing out of routes the report asserts blandly that "greater competition should be stimulated by licensing more than one operator on each route, and this would lead to an improvement of the British effort, both in ingenuity and weight" [whatever that may mean] "on each international route from the United Kingdom." Perhaps the members of the working party had forgotten their history, but those of us who recall Croydon in the early 'twenties can also remember the state from which British air transport had to be rescued by the formation of Imperial Airways in 1924—and that was not the first attempt that had been made to come to the aid of the companies concerned. There must be considerable sympathy with the independent operators in their present situation, although it is reasonable to point out that some have been able to extricate themselves from a slough of despond by evolving new and popular facilities such as freight services, car ferries and coach-air services. The whole purpose of licensing routes, whether by road or air, has long been accepted in Britain as being thoroughly justified by reason of the security which is afforded to the approved operator. Since, moreover, relatively few transport operations come anywhere near the goldmine class, it follows that those that do qualify help to sustain their poor relations. When there is foreign competition on almost every route, can the British counter-effort be divided without jeopardising its effectiveness? It should not, moreover, be forgotten that there are distinct possibilities of five European airlines combining more closely as envisaged in the Europair project and, safeguarded as it is by pooling agreements, British European Airways may nonetheless be hard-pressed.

Not All Chances Accepted

THE report does nothing to indicate what should be done to ensure the maintenance of unremunerative but socially desirable services such as those to the Western Isles, Orkney and Shetland if B.E.A.'s ability to earn profits on other routes is to be weakened. There may also be grounds for wondering whether there would be any great anxiety to parallel the present services to Prague and Warsaw, or the future one to Moscow. There is already a number of direct services from provincial centres to Continental points and there is also a number which has been authorised and, if started at all, allowed to lapse. Some of the operators concerned have striven steadfastly to make a success of their endeavour and merit all possible support, but others do not come in that category. The same can be said to apply to the operation of internal services and in both cases the reference in the report to the Civil Aeronautics Board and the case of the irregular air carriers with a limited number of return flights per month is hardly relevant since the authorisation came only after the board felt reasonably satisfied that it could not harm the interests of the regular operators. Independent British operators have developed colonial coach class services with success and are now seeking further expansion in that field—the A.B.C.C. thinks there is scope here if international complications prevent the allocation of international routes—but internecine fighting between independents does not seem the best course to follow. The report has value in stimulating thought in others, but its authors have not done enough thinking before committing themselves to paper.

★

Forthcoming Events

Until April 17.—Factory Equipment Exhibition. At Earls Court.

April 12.—Omnibus Society (North West and Yorks). Visit to Wallasey Corporation Motors. Meet Seaview Road, Wallasey. 2.15 p.m.

April 13.—Institute of Transport (Sheffield). Annual general meeting. At Royal Victoria Hotel, Sheffield. 6.30 p.m.
Institute of Transport (Swindon). Annual general meeting. At Town Hall, Swindon. 7.30 p.m.
Railway Club. Informal meeting. At 320 High Holborn, W.C.1. 6.30 p.m.
Institute of Road Transport Engineers (South Western). Annual general meeting and dinner. At Anchor Hotel, Kennford, Exeter. 7 for 7.30 p.m.

April 14.—Institution of Mechanical Engineers (Automobile). Paper by Mr. D. L. Pratt, "The Performance of Vehicles under Transantarctic Conditions." At 1 Birdcage Walk, S.W.1. 6 p.m.
Institute of Transport (Portsmouth). Paper by Mr. W. H. Green, "Transport in the Postal Services." At Chamber of Commerce, Portsmouth. 7 p.m.
Institute of Transport (Yorkshire). Annual general meeting and films. At Griffin Hotel, Leeds. 6.30 p.m.
Railway Development Association and Railway Conversion League. Discussion, "Railways into Roads?" At Caxton Hall, S.W.1. 7.30 p.m.
Permanent Way Institution (Yorks). Paper by Mr. J. M. Haner, "Snow Clearance." At Railway Institute, York. 6.45 p.m.

April 14-17.—Scottish Road Passenger Transport Association. Annual conference. At Turnberry.

April 15.—Institution of Locomotive Engineers. Paper by Mr. R. M. Hancock, "Vehicle Suspension and Bogie Design in relation to Track Conditions." At Institution of Mechanical Engineers, 1 Birdcage Walk, S.W.1. 5.30 p.m.
Institution of Railway Signal Engineers (Manchester). Paper by Mr. D. G. Parker, "Colour-light Signalling Principles, including the Application of C.T.C." At Dining Club, Hunts Bank, Manchester. 6.30 p.m.

April 16.—Diesel Engineers and Users Association. Annual luncheon. At Connaught Rooms, Great Queen Street, W.C.2.
Institute of Transport (East Midlands). Paper by Mr. L. A. Castleton, "The Road-Rail Problem." At Eastgates Court Hotel, Lincoln. 1 p.m.
Institute of Transport (Humberside). Paper by Dr. A. H. Briggs, "An Outsider on the Platform." At Yarborough Hotel, New Holland. 8 p.m.
British Institution of Radio Engineers. Inaugural meeting of Radar Group. At 9 Bedford Square, W.C.1. 6.30 p.m.

April 17.—Institute of Navigation. Paper by Colonel C. Rowell, "The Dectra Trials." At Royal Geographical Society, Kensington Gore, S.W.7. 5.15 p.m.
Institute of Transport (South Wales and Mon.). Annual general meeting. At Royal Hotel, Cardiff. 7.15 p.m.
Institute of Transport (Tees-side). Annual general meeting and visit to new universal beam mill at Dorman Long Lackenby Works. At Cleveland Scientific and Technical Institution, Middlesbrough. 6.30 p.m.

April 18.—Permanent Way Institution. Joint visit with Birmingham section to new Banbury Station of Western Region.
Light Railway Transport League. Paper by Mr. F. W. Hunt, "Some Austrian Tramways and Minor Railways." At The University, Southampton. 7 p.m.

April 18-19.—British Coach Rally. At Brighton.

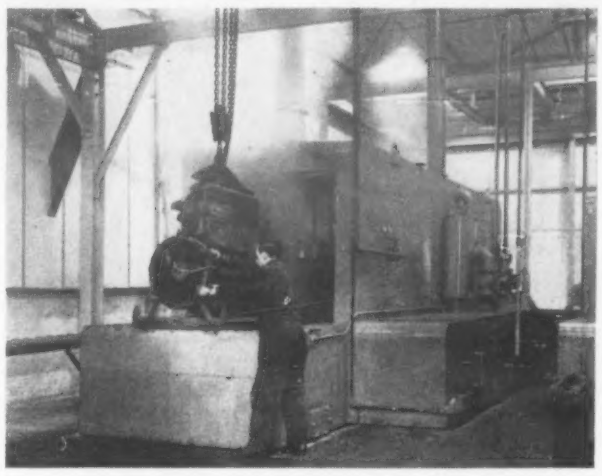
AUTOMOTIVE DIESEL ENGINE REBUILDING

New A.E.C. Plant at Southall

HIGH STANDARD OF EXCHANGE SCHEME UNITS

OPERATORS of commercial vehicles have long had available to them various schemes of obtaining replacement engines of factory reconditioned standards; these facilities are now of such a high standard and so inexpensive when the intrinsic value of the exchanged engine is compared against what can be achieved in the average small fleet's overhaul shops or even in the larger operator's engineering works that business in exchange engines is considerably increasing. Facilities provided by the A.C.V. group for this purpose in the A.E.C. factory at Southall provide a case in point.

The A.E.C. organisation has for many years operated a scheme whereby engines can be exchanged for completely overhauled units and all types of operators regularly avail themselves of these facilities. With the constantly extending life of engines between overhauls larger numbers of operators are using the exchange scheme, finding it more economical than to operate their own plant. Therefore A.E.C. has found it necessary to build an entirely new engine rebuilding shop at Southall.



The A.E.C. engine reconditioning scheme at work: The complete engine is passed through the washing machine before stripping down begins

Mobile racks of complete engine kits go from the marshalling stores to the assembly shop; right, the fuel pump overhaul shop and Hartridge test benches

This new shop, having a floor area of some 30,000 sq. ft. and equipped with the latest specialised plant for engine rebuilding work, is now fully operational and available to meet operators' demands.

Good Value

Although certain operators may contend that they can overhaul at less cost, it can well be claimed that a manufacturer's rebuilt engine incorporating a large proportion of new material and which is fully dynamometer tested and guaranteed is a far more attractive proposition. The method of rebuilding engines in the new A.E.C. plant follows a carefully worked out plan. First, the complete engine is passed through Curran washing machines before any stripping is commenced.

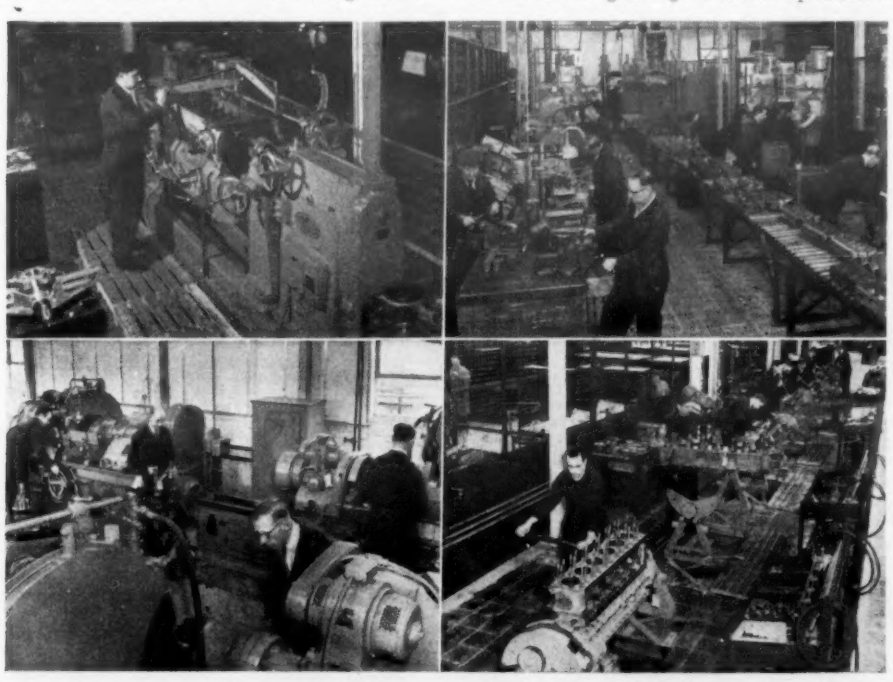
The initial stripping stage is to remove all sub-units; these again are passed through washing machines before the final stripping operation. The components then travel through the washing machines separately, as it is considered that cleanliness prior to either inspection or work being carried out is of paramount importance.

After stripping all parts pass through to the view room, where a very thorough systematic inspection is carried out; parts not suitable for rebuilding are scrapped, whilst remaining material is passed on to a marshalling stores for issue in type batches to the appropriate sections in the workshop to be built up in sub-unit form. On completion sub-units are passed back to the marshalling stores for reissue to the engine main assembly line. By this means a full control of sub-unit flow is ensured. All pistons, liners and bearings are renewed without question. Balanced sets of valves are supplied to each engine.

Crack testing of crankshafts is effected on modern Fel-Electric equipment before grinding on a battery of Churchill crankshaft grinders is performed. These also carry out crankshaft grinding for outside customers. Following grinding, all crankshafts are again viewed to ensure that they conform in every way to the standards set. Main bearings for line boring are fitted in a bay adjacent to the crankshaft grinders. The next operation, line boring, is carried out on a new Krause machine specifically designed for this purpose and which bores with extreme accuracy. This has four times the output of the equipment formerly used. All bearings are next lead flashed prior to the operation of fitting the crankshaft. Engines requiring the latest type precision bearings have the initial assembly effected on a roller conveyor, the monobloc passing along the conveyor for the fitting of crankshaft, camshaft and other parts.

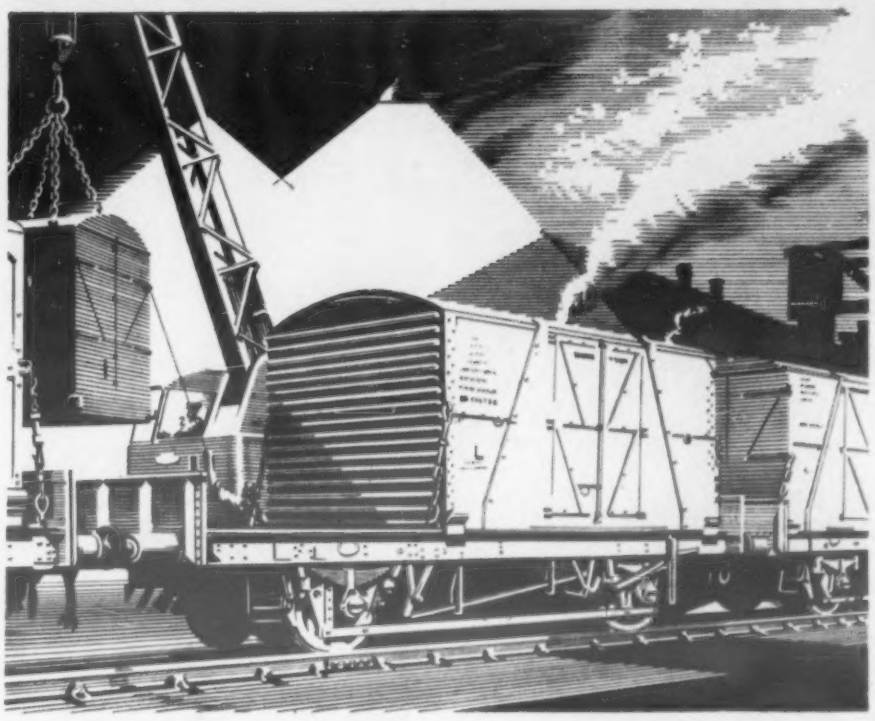
All cylinder block rebuilding is effected in one section of the shop, and these operations include the pressing in of new cylinder liners, honing to size and surface grinding. The first operation on cylinder heads is the surface grinding of the pressure face; afterwards the heads travel by roller conveyor to a line of pillar and radial drills for machining and fitting of valve seat inserts, injector sheaths, etc. The roller conveyor continues into the head assembly section, the actual assembly work being undertaken on benches adjacent to the conveyor. Viewing takes place at intermediate stations along the line.

The connecting rod section is equipped with a lathe for rough boring, using special jigs to ensure a quick set-up and two Heald Borematic machines



Line boring of bearings on a highly accurate Krauseco machine; cylinder heads, after surface grinding of the pressure face, go by roller conveyor to the battery of drills; below, regrinding and checking crankshafts to the set standards; and right, reassembly on special stands which are adjustable to accommodate all types of engine

(Continued on page 18)



"CONDOR" Freight Expresses speed delivery on

Operating on the London Midland Region of British Railways, the "Condor" Freight Express service came into operation on March 16th. "Condor" Freight Express trains will run to a regular timetable between London and Glasgow.

For speed, reliability and ease of maintenance, the container-carrying vehicles — modified 22 ton plate wagons — are all fitted with SKF spherical roller bearing axleboxes.

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LORRY—BUS—COACH

Jubilant Rail Forecaster

ADDRESSING North-East traders recently, Mr. T. H. Summerson, chairman of the North Eastern Area Board of British Railways, forecast that as a result of modernisation schemes now in hand, the railways would be able to "lick the pants off" road transport. Mr. Summerson said that although other major industries like coal, gas and electricity had been able to start modernisation work soon after the war, the Government had not given the "go ahead" to the railways until 1954. The railways had been using old equipment while their competitors in road transport were able to introduce modern vehicles. Mr. Summerson said that the railways would soon recapture long-distance traffic taken by road transport. He contended that it was the proper function of road transport to cover the shorter distances, to collect and distribute, but "the long hauls would no longer be road transport's plum." Road transport would not have a chance. Mr. Summerson said the growing competitiveness of the railways need not cause despondency among road hauliers. They should recognise in which direction their future usefulness lay, and concentrate on it. He would not care to put money into road transport at this juncture.

Courtesy Campaign Starts

NEXT Monday sees the start of a nationwide publicity campaign sponsored by the British Omnibus Companies public relations committee, and supported by certain municipal undertakings also, with the theme "Life is Brighter for Courtesy." This is to be a two-way appeal, to passengers and busmen alike. Many companies will be using their own publicity but centrally prepared posters for bus interiors, drawn by the amusing cartoonist Mervyn Wilson, are available to them. The B.M.M.O. company devotes the front page of its March staff bulletin to this theme and other company managers are similarly writing to their employees on the subject. Ribble general manager, Mr. H. Bottomley, is calling his campaign "Crusade for Courtesy." In a message to his busmen and the public he says that the slogan carries no implication that there has been any decline in manners on either side. In 25 towns throughout the Ribble operating area the campaign will get a send-off by the mayor or the chairman of the council, supported in many cases by the municipal transport manager.

Glasgow Revenue Aim Cut

ONE of the proposed fare revisions put forward by Glasgow Corporation Transport Department, withdrawal of the 4d. bus fare, has been disallowed by the Scottish area Traffic Commissioners. The fares proposed for buses, trolleybuses and trams alike were:

Two stages, 3d.; three and four stages, 5d.; five and six stages, 7d.; seven and eight stages, 8d.; nine and ten stages, 9d.; 11 stages and over, 10d.
Underground—Two stations, 3d.; three and four stations, 4d.; over four stations, 5d.
Night services—1s. per journey; 4s. weekly.

The proposed increases would have brought in additional revenue of £830,000. It is estimated that the Commissioners' decision will reduce this amount by about £250,000. The transport committee will now have to consider whether to apply the 4d. bus fare to tram and trolleybus services. The object of this fares revision was to place all road services on an equal footing. Mr. E. R. L. Fitzpayne, transport manager, recommended originally to the transport committee that fares be increased to raise additional revenue to roughly the amount now envisaged, but the committee agreed on a scale of fares that would bring in an even greater additional revenue. This scale included the abolition of the 4d. fare and the charging of 5d. for three or four stages.

Hauliers Complain of Uneven Race

FREE enterprise haulage was keeping competition alive in the sphere of transport and was also keeping down the cost of industrial production and the cost of distributing that which was produced, said Mr. R. N. Ingram, R.H.A. chairman, in Southport last Saturday. The road haulage industry had been told to expect increased competition from the railways, which were receiving large grants from the government for modernisation. The industry was resilient enough and efficient enough to accept any reasonable challenge, but if it was to enter this race it must at least have the benefit of starting from the same post as its competitors. The difference in financial treatment (including fuel tax) of the two sectors of transport must be progressively eliminated.

Commer 5C diesel refrigerated van, one of 44 carrying Neilson's ice-cream; right, the Bonallack light alloy malt container on this Bedford articulated unit weighs only 25 cwt. but is of 1,000 cu. ft. capacity. A hydraulic ram tips the semi-trailer over a pit at unloading point

Sheffield Excursions Review Sought

THE Minister of Transport has rejected appeals on behalf of the British Transport Commission, Hirst and Sweeting, Limited, Park Garage (Swallownest), Limited, Sheffield Corporation, Sheffield Joint Omnibus Committee and Sheffield United Tours, Limited, against the decision of the Yorkshire area Traffic Commissioners granting to Sansam Brothers (Sheffield), Limited, additional excursions to Scarborough, Bridlington, Cleethorpes, Skegness and the Yorkshire coast (circular). During the appeal inquiry it was submitted on behalf of Sheffield United Tours that no operator should be allowed to deflect traffic to himself from other operators without a comprehensive review of Sheffield excursion facilities such as the traffic commissioners apparently contemplated in 1952. The Minister says that he does not know why the Commissioners decided not to hold such a review, but he does not accept the argument that such a review was an essential preliminary to the proper consideration of the applications and the appeals, which have been decided on their merits in the light of present circumstances.

More Mobile Radio Frequencies

THANKS to technical improvements in radio-communications equipment, the Postmaster-General has accepted the recommendations in the third report of the Mobile Radio Committee and, from June 1 this year, there will be twice as many channels in the land-mobile "low band" used for mobile radio services. This is being achieved by the interleaving of 46 additional channels between the present 47 two-frequency channels. At present the carrier for each channel is 50 kc/s wide; in future, the low band (71.5—88.0 Mc/s v.h.f.) will be spaced at 25 kc/s, thus making a total of 93 channels. Existing users will generally have until June 1, 1964, to convert their stations to 25 kc/s channelling. Of the 93 channels, 10 are allocated to general purposes, i.e. to no one class of user, and seven are reserved for future development. In the "high band" (165—173 Mc/s) a changeover from 100 kc/s to 50 kc/s spacing is due to be completed by January, 1962, thus doubling the number of frequencies and the possibility of further narrowing the channels to 25 kc/s may be examined. The report is published by H.M. Stationery Office, price 1s. 3d.

E.C.E. Vehicle Working Party

BRAKING equipment, especially in relation to trailers, signal lights on vehicles, and the adoption of uniform conditions of approval and reciprocal recognition of approval for motor vehicle equipment and parts were the main questions studied at the meeting, held at Geneva from March 16 to 20, of the working party on the construction of vehicles, a subsidiary organ of the Inland Transport Committee of the United Nations Economic Commission for Europe (E.C.E.). With regard to the methods and devices used for braking tests in the various countries, the working party expressed its desire to study the different devices used in the various countries when a vehicle model is approved, if approval is required under the regulations, or when a vehicle is first registered, or on the occasion of periodic checks or spot checks on the road. A proposal by mountainous countries that provision should be made for an obligation to fit decelerators on vehicles with a weight exceeding a specified tonnage was not regarded as suitable for international application owing, among other things, to the differences in relief between one country or region and another.

The working party noted the I.S.O. studies on the adaptation of mechanical coupling or interconnecting devices for vehicles using different systems (drawing vehicles and trailers). It noted that many difficulties still had to be overcome. Work has been completed on the text of regulations concerning the approval of European asymmetrical-beam headlights and their bulbs ("E" headlights and bulbs). In view of the introduction by American manufacturers of the practice of equipping vehicles with four driving lights, the working party recommended that the number of driving lights should no longer be restricted to two, as was the case in some countries. It agreed that, pending the amendment of domestic laws, two driving lights could be regarded as constituting only a single light when the distance between them did not exceed a specified maximum. A similar definition was adopted in the case of two contiguous signal lights performing the same function. A proposal that movable-arm indicators be prohibited was rejected by a majority, providing that the requirements in respect of geometrical visibility were defined.

Budget Changes

PRINCIPAL taxation changes made in the Budget regarding road freight vehicles and buses are:

From April 8, 1959, rebate of hydrocarbon oil duty in respect of heavy oil not used as fuel in road vehicles
(i) shall be allowed on heavy oil used as fuel in
(a) engines with which a road vehicle is equipped but which do not propel the vehicle and do not draw their fuel from the same supply as the propelling engine;
(b) vehicles which are not used on public roads and are not licensed for such use;
(c) vehicles exempt from vehicle licence duty as road construction vehicles; and
(d) vehicles exempt from vehicle licence duty because they are used on roads only to a limited extent in passing from one part of a holding to another;
(ii) shall not be allowable on heavy oil used as fuel in a vehicle which is chargeable with vehicle licence duty as a goods vehicle even though it is otherwise of a kind elegible for the use of rebated oil.

It is proposed to reduce the annual licence duties on hackney carriages (other than tramcars) of over eight seats. In substitution for the rate of duty chargeable under the Second Schedule to the Vehicles (Excise) Act, 1949, the new scale will be:

An initial charge of £12 plus an additional charge of 10s. for each seat in excess of 20. This change will take effect from April 8, 1959. Holders of licences which were taken out before that date will be entitled to a refund of duty in respect of any period after March 31, 1959, during which the licence is or was current, by an amount equal to one-twelfth of the reduction in the annual rate for each complete month in that period.

It is proposed that excise duty shall be chargeable in respect of mechanically propelled vehicles left standing on public roads whether they are being used or not.

Bus and Coach Developments

Commencing April 6, a new London Transport Central area route 248A, using the RLH-class of lowbridge double-deck bus, runs between Upminster Station and Corbets Tey at Monday-Friday peak hours. The journeys on route 250 to Corbets Tey are withdrawn.

G. E. Nightingale, Budleigh Salterton, proposes a local circular service to be operated in the mornings.

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BRITISH RAILWAYS AND THE TRADER

Requirements and Their Fulfilment

3—RAILWAY OBJECTS AND ACHIEVEMENTS*

In a paper, entitled "The Customer from the Railways' Point of View" and presented to the British Railways (L.M.R.) Lecture and Debating Society, Mr. E. W. Arkle, director of traffic services, London Midland Region, dealt with points raised in an address to that society by Mr. E. G. Whitaker, transport adviser, Unilever, Limited, published in abstract in our March 21 and April 4 issues. A report of Mr. Arkle's paper, which opened with reflections on passenger and parcels traffic, follows.

THE traffics which mean so much to British Railways and in which of late our losses have been so severe come under the heading of general merchandise, or Classes 7-21, to use a fast-fading description. The story of recent years is only too well known to you all—a long steady decline despite a rise in the country's general production. Sometimes it has seemed less bad than at others but the following index of the L.M. carryings (tons) of general merchandise since 1953, and using that year as a base, are sufficiently clear to need no further detail:

Year	*Tons as per cent of 1953*
1953	100
1954	96.76
1955	90.46
1956	87.89
1957	82.55
1958	72.81 (estimated)

This state of affairs would have been manageable up till about 1957 in the sense that we could hold ourselves in balance by economies until the dual effects of freedom in charging and modernisation came to our aid, as they certainly are already doing. In fact our budget for 1958 legislated for such a situation, until the recession in the iron and steel industry, relatively small in itself, began in the spring and early summer to knock all our calculations out of gear. What had been a gentle slope for a nice controllable run suddenly steepened into an almost dangerous precipice which it will still take all our skill, courage and enthusiasm to negotiate.

What this crisis has shown up more than anything else is the way in which the erosion of past years into other staple commodities has left us vulnerable beyond measure to a setback in the basic industries. The story of this setback is not one for us tonight, beyond a mention of the way in which I believe it has, despite all appearances to the contrary, done something to bring both the steel industry and ourselves to an awareness of our mutual interdependence, with what may turn out to be favourable results for our carryings in the long run, more particularly when the industry begins to recover, as it undoubtedly will.

Service and Cost

It is now time to deal with this general deterioration, firstly with a view to explaining the basic causes, secondly in order to see what steps we are taking and can still take in this Region to recover ground and, indeed, to advance into new fields. Last month's speaker quite rightly emphasised that the competitive field could be roughly divided into two sections, those affecting quality of service and those affecting cost, and indeed this society recently spent some time debating which of the two was more important. To me it would seem rather like debating whether it was more important to eat than to drink, in the sense that each is complementary to the other and both are essential to the continuance of any normal form of life. I will deal first with service.

Whether we like it or not, our customers, and indeed, all traders in every country, have been trained by the activities of road transport to expect a great deal more from transport than any of their predecessors. Certain internal processes of exchange of materials and semi-finished products would have been unthinkable before the days of mechanical road transport, which has also opened up new markets of a totally different character to many trades besides enabling them to site themselves without regard to rail facilities. Equally the pressure of economies, particularly when money is tight, has forced business people to do all in their power to cut down the amount of goods in the pipeline—whether it is leading inwards to the factory or outwards from it. Road transport, particularly where it is one's own, can achieve great things in this field, and has not been slow to do so in a period when for too long we have been content to specialise in a reliable service over a few well-selected main routes. I believe that it is in this direction that our greatest efforts over the next year or two have got to lie, aiming, as is now being emphasised over and over again, at complete reliability rather than any spectacular speeds for individual flows. Is this beyond our powers? Personally I believe it is well within them.

Reliability

When we consider that two-thirds of our L.M. revenue comes from freight it seems to me that in any event our very future depends, not only on achieving such a state, but also on proving to the community at large that we have achieved it, which takes even longer. It is a significant fact that although our special export services have now been running for years, some of the most important business people in the country claim that they have never heard of them. Here in fact is just an example of what can be done by careful organisation and attention to detail, and one is almost led to believe in a conspiracy of silence or deliberate ignorance when so little appears, even now, to be known about our excellence. Let us be quite clear on this point—that we shall never prosper on the leave-overs from road transport or on things we manage to do in bad weather or because we let people use our wagons far too cheaply as storehouses, or indeed on grounds of pity or charity—but only when all circles of trade, industry and politics in Britain are quite satisfied that we cannot be faulted on the reliability or quality of the Commission's services anywhere. How shall we achieve this?

Fundamentally, we have got to think in terms of the wagon, and so long as that runs as it should and our terminals and cartage function also as they should, we shall have achieved our basic object, though there are, of course, many other things to be done. Many present developments are leading steadily towards full reliability for the wagon unit, though many more are still needed. One measure, of course, is the fitting of continuous brakes, which should mean that within a year or two only those categories of traffic which are unsuited to run in fast trains will be unable to make use of our fastest categories of service. The number of these fully and partially fitted trains is going up week by week and so also is the number of those which appear in our freight-train timetable and which therefore cannot be cancelled or altered without the full agreement of the commercial side.

Cross-Country Services

It is most important, however to attend to the cross-country and connecting services, as well as to those running on the main lines to and from London. I sometimes think that we consider too many of our problems from a London angle (this is certainly the case on the passenger side) and the Dutch seem wise in having their headquarters in a town of only moderate size—Utrecht. We are often admonished to run more and more trains like the 2.38 p.m. Camden—Glasgow but in point of fact, important as such trains are, from a revenue-earning angle they are certainly not the equal of many much less spectacular efforts. Some of the most important customers in this Region are situated in relatively small centres like Warrington, Burton-on-Trent and Melton Mowbray, and they require services at least the equal of those on the trunk routes.

Even firms who are in the main centres of population and industry for production purposes distribute through depots which lie off the beaten track; therefore the quality of the service for general merchandise must be universal, the exception being in respect of certain small commodities rather than flows of traffic. Where there are awkward movements involving difficult exchanges or circuitous routes, it may be that B.R.S. will have to be called in for all or part of the journey. Both they and we have sadly failed to exploit with traders the important possibilities of a joint service.

One of the most difficult areas to work through even now is that of London, and it is to be hoped that the great circular route which has marked advantages for the movement of traffic to and from both the Midland and Western lines of this Region will not be allowed to lapse because of the present low levels of freight traffic. A properly designed and executed scheme of this kind can do so much to reorientate the whole pattern of services in Britain, even with the most remote parts of Scotland and Wales.

Things to be Done

There are many things to be done before this happy state of affairs comes about, of which the following are a few: (*a*) There must be a laid down service for all regular general merchandise wagons and for as many less regular ones as possible; (*b*) all concerned must understand the service and realise that it means what it says; (*c*) leave-overs at both ends must at all costs be eliminated; (*d*) intermediate junctions and yards must work to a fixed and unalterable plan laid down by the district operating superintendent for the maintenance of important connections in all directions; and (*e*) cartage fleets must help out where rail service is sparse or difficult.

There seems to be no reason, granted these measures, why the reliability of our passenger services should not at least be equalled (though it will not be achieved overnight) by the gradual development of these measures along with the fitting of brakes and the changeover in traction.

Loss and Damage

One more important matter still remains—that of loss and damage. We have by a whole series of co-ordinated steps been able to bring about a marked improvement in the amount paid in claims, but it is still far too high. It seems likely that in 1958 we paid out in the L.M. Region something like £215,000, and on British Railways about £580,000, because of damage alone. Some of this arises from bad handling on stations or bad loading but a high proportion is due to rough treatment of wagons. It seems strange that traders should have to look upon rail transport as more dangerous to goods than road when we bear in mind that movement should be almost entirely fore and aft, the rest being controlled by the rails, which are themselves so much smoother than the average road.

Much of the trouble arising from sudden starts and stops will be eliminated by the continuous brakes, but there is always the hazard of the shunting yard. Could this not be removed or reduced by the laying down of a maximum shunting speed, say 3 m.p.h., with absolutely rigid enforcement? I know the experts will say that this would bring all yards to a stop, but we cannot have it both ways and there is no possible doubt that damage (or even the risk of it) has contributed largely to our losses of general merchandise. We must not forget, too, that the mere insistence on extra packing for rail journeys stems from the same cause and has the same unfortunate result. It is a most frequently quoted reason for diversion of traffic to road.

Pallets, Containers and Wagons

With these two fundamental bases of reliable service gradually rectified we should be in a good position to meet any rivals—that is, subject always to the usual long and weary task of persuading the public of the reality of what we have achieved. But a great deal remains besides, and some of the more important factors were mentioned by Mr. Whitaker, as follows:

(i) *Pallets:* There is a widely held belief that only road transport can deal with palletised traffic whereas, of course, we carry every day large quantities of it for some major firms, including Unilever. On the other hand, much still remains to be done, especially in building up a stable, solid load on or in a railway wagon. So far all our efforts to construct a railvan which can, like a lorry, be loaded on both sides from a fork-lift truck on the ground have failed as apparently it is not possible to get sufficient fore-and-aft, and indeed lateral, stability on a vehicle whose sides can entirely be removed or slid along for loading. This problem has got to be solved, as well as that of getting as good a payload in our vehicles as is attainable in the bulky modern road van.

(ii) *Containers:* These have been with us for 30 years, having been originally produced and used by

(*Continued on page* 8)

* No. 2 appeared April 4.

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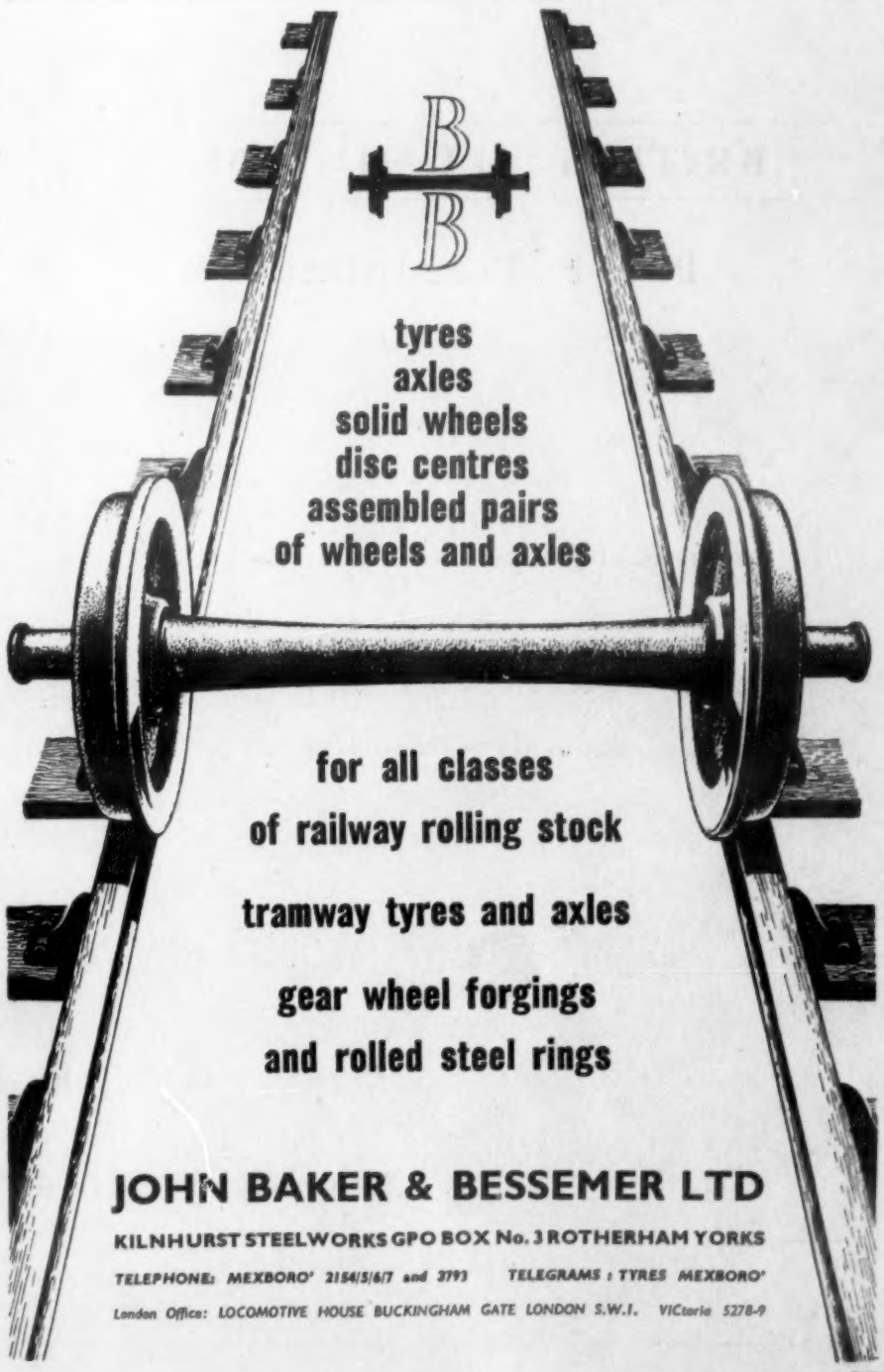

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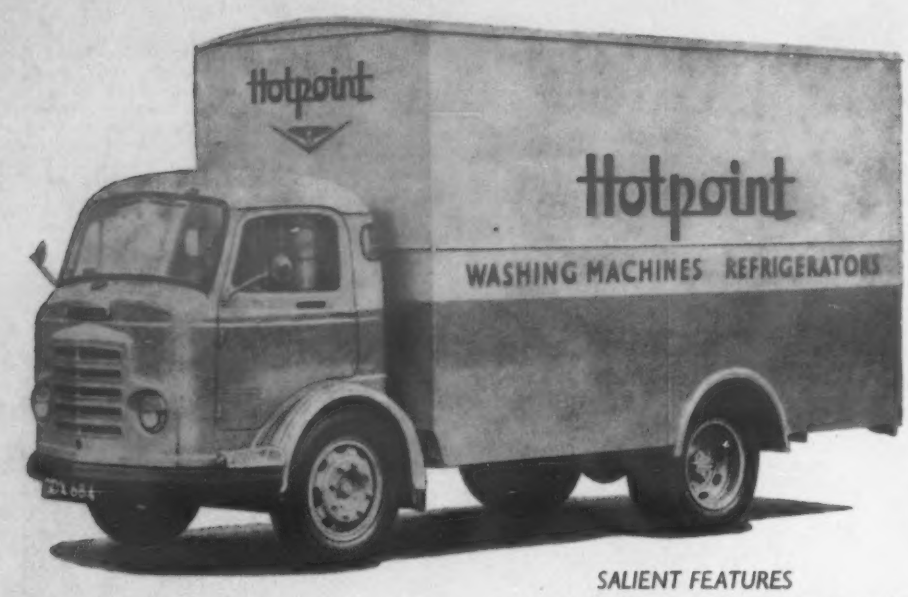

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HOW GRANBY GOT TO MONTREAL

An All-the-Year-Round Canadian Trucking Run

THERE is an amusing story related of how two young Granby, Quebec, farmers started the first regular commercial trucking business to operate all year round between that place and Montreal; it illustrates one feature of Canadian road transport pioneering unknown to operators in the Mother Country. Granby lies about 50 miles due east across the St. Lawrence from the capital city of Quebec province. In order to keep their customers from going back to the railways during the hard winter months it was necessary for them to plough the main highway between the two cities after snow. This the provincial government refused to do, nor would it help with the expenses. But after the highway *was* ploughed the general public was only too glad to use it at the expense of the two brothers, for legally it was a public highway and they were not able to charge tolls.

That was 30 years ago; today Ball Brothers Transport, Limited, operates some 70 pieces of equipment, including black and yellow tractor-trailer units, all carrying as a trade mark a huge yellow ball with a pair of outspread wings. Their vehicles roll hourly between Montreal and Granby, while the C.N.R. runs one train daily each way.

History Up to Date

From 1924 until 1940 they ploughed the road in winter, operating four ploughs and four scrapers after which time the general public demanded that the provincial government keep the roads open, which it has been doing ever since.

Despite modest premises, Ball Brothers Transport is strong on maintenance. All equipment is thoroughly lubricated every 1,000 miles, including an oil change. This is done in spite of filter equipment on all tractors. The belief is that oil is cheaper to buy than laid up vehicles and replacement parts. All engines are given a complete check every 3,000 miles, and a minor overhaul at 4,000, with a complete engine overhaul at 50,000 miles for the highway units, while the city collection and delivery units get theirs at 75,000. The schedule calls for an engine changeover without the laying-up of any tractor. Tyres are automatically replaced and sent away for a recap or retreading after 25,000 miles.

The installation of a closed-circuit teletype system between terminals and the main office has eliminated the previous delay to each driver while the office was making out waybills.

Ball Brothers still need snow-ploughing equipment: left, a bulldozer crawler tractor; right, an International with heavy wing plough

Recompense for Ploughing

Two long bitter winters put the two brothers nearly out of business, for they ran into financial difficulties thanks to the heavy expense of the ploughing, and without cleared roads their trucks would have to stay in the garage while the railways regained their business. One evening the two brothers were drawing solace from the hot stove when an idea struck them. The highway went right past their farm. Next morning saw their ploughs out as usual, but this time when they reached the farm limits, the ploughs turned off and cut out a road through their private land, then back to the highway. They built a toll gate and were open for business the following morning. Every vehicle coming down the highway had to detour over the private road, or turn back. Most of them paid the moderate toll, and the Ball brothers were back in business again with enough money coming in to keep the road open.

The United States Rubber Company, to which is affiliated the North British Rubber Co., Limited, has begun the production of commercial vehicle tyres made of polyisoprene rubber at a price which is competitive with that of the natural product.

BRITISH ALUMINIUM

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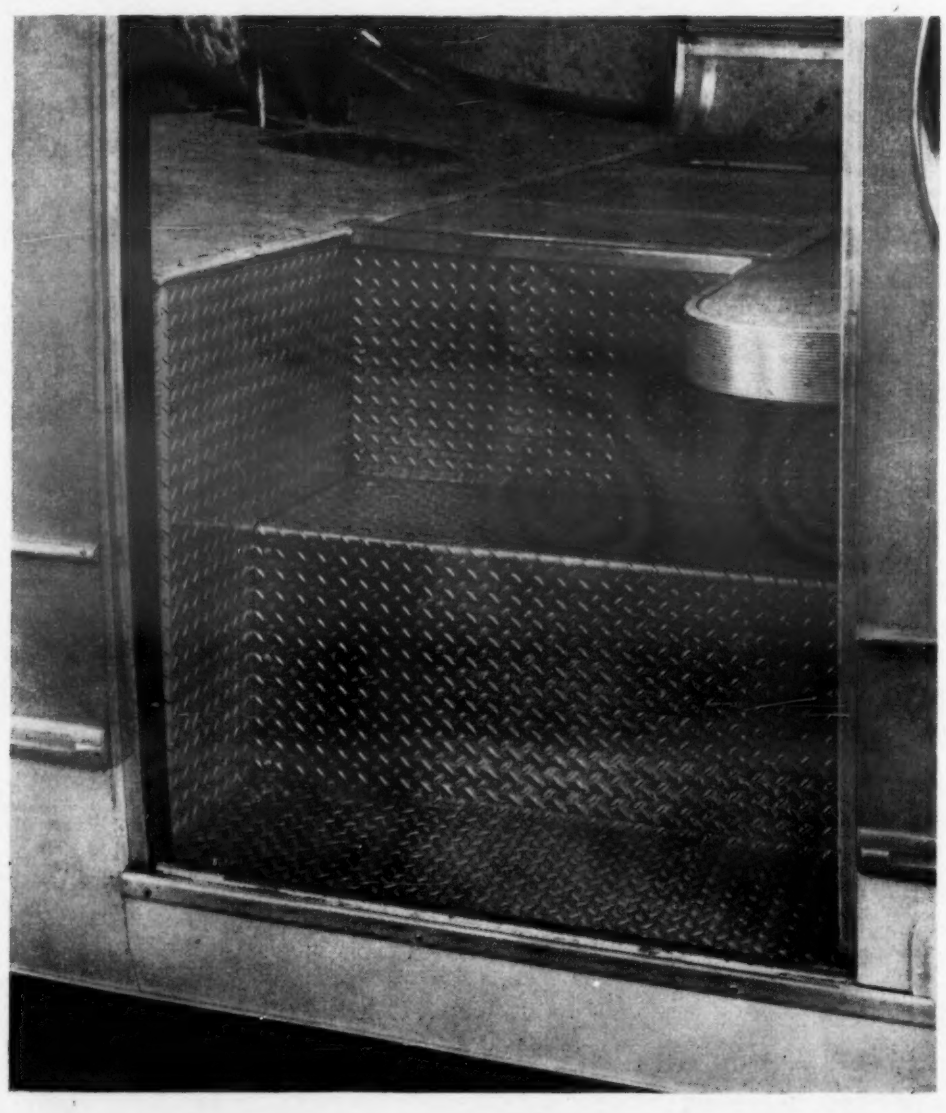
Small Pattern P-G-P Treadplate presents an attractive non-slip surface, which is both hard wearing and easy to clean. It is here shown used for the step well of a coach by Duple Motor Bodies Ltd.



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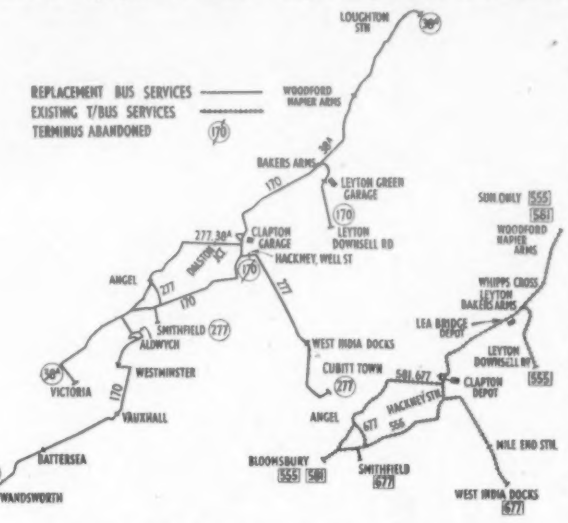
LONDON TROLLEYBUSES

Second Stage of Replacement

AS already announced (MODERN TRANSPORT, April 4, page 8), the second stage of the London trolleybus conversion scheme will take effect on April 15, when trolleybus routes 555, 581 and 677 will be replaced by RT-type diesel buses as indicated on the accompanying map. New through facilities and route extensions made possible by the greater flexibility of diesel buses are being introduced with the changeover; the existing bus service 38a completely absorbs the 581 trolleybus route, for example.

The route mileage affected is 26; the route-mileage of 555 is 9.05 miles, of route 581, 9.5 miles, and of route 677, 7.25 miles. As large portions of these routes are in common use, not only with each other but also with trolleybus routes which will remain for the time being, the actual trolleybus route-mileage withdrawn completely at this stage is 6.95 miles.



Bus services will replace three London trolleybus routes on April 15

Depots

The trolleybuses to be displaced come from two depots, Clapton and Lea Bridge. Lea Bridge is to be closed from an operational point of view and the staff transferred, the majority to the nearby Leyton bus garage, but some to Clapton. Work on the conversion of Clapton depot to make it suitable for use as a diesel bus garage has been in progress since June, 1958. One particular difficulty is that of cleaning the trolleybuses, as the gantries normally used to enable them to be cleaned by hand brushing have to be removed at a fairly early stage to make way for preparatory work for a washing machine to be installed. More than 150 drivers and nearly 50 engineering maintenance staff at the two depots have taken or are taking special conversion courses to prepare them for handling diesel buses.

At Clapton, three 5,000-gallon above-ground bus fuel tanks have been installed on the south side of the garage near the exit. These are against the original wall of the garage, and are enclosed by a new brick wall. Separated from the tanks by a wall is the machine room containing the pumps which transfer the fuel across to the new fuelling islands on the opposite side of the garage. The machine room also contains a 500-gallon tank for lubricating oil and its associated pumps. The tanks for diesel and lubricating oil are fitted with sight gauges, obviating any need to dip the tanks.

Routine at Clapton

The buses will run in through the northern (left-hand) doors of the garage to the fuelling islands, which will have the standard London Transport self-regulating fuelling nozzles and points for dispensing lubricating oil and radiator water. Vacuum cleaning hoses are being provided for use while the bus is being refuelled, the original vacuum plant used for the trolleybuses being adapted for the purpose. The buses will then pass on to the washing area where a washing machine and a roof washer are being provided. The bus will finally pass to the parking area, which will hold 91 buses under cover. The traverser pit is being filled in and its two traversers are being removed.

The various stores, shops and offices round the perimeter of the garage are being rehabilitated and altered as required to perform their new functions and the pits are also being modernised. The present solid-fuel boiler installation will be left in place until the summer, and will then be replaced by a modern installation with oil-fired boilers fitted with photo-electric control. These will run with little attention and will cut in or out of use automatically as the demand on them rises and falls. Other minor improvements are being made and a sprinkler system is being installed. Apparatus not required for diesel bus operation, such as the overhead power wiring and certain switchgear, will be removed. A new compressor is being installed to feed a ring main delivering air at 200 lb. per sq. in. round the garage.

Ticket Office

A new extension to the administration section at the west end of the garage is being built. This will enable a considerably enlarged conductors' room and a bigger ticket and traffic office to be provided on the ground floor as well as improved locker accommodation. On the first floor is the canteen, which in its enlarged form will seat 88 people, and on the second floor, which is not being extended, are stores and recreation and women's rest rooms. Clapton depot provides 58 trolleybuses for scheduled services daily and there are 63 trolleybuses at the depot. These are of K1 and K2 types, both with Leyland chassis and Leyland body, and introduced in October and December, 1938, respectively.

Clapton depot site was purchased by the North Metropolitan Tramways Company on March 30, 1882. The depot, when opened, was referred to as "Mare Street Car Shed, Bohemia Place" and had six tracks with stables and loose boxes. The London County Council assumed full responsibility for the tramways of this company in July, 1906, and in December of the following year the L.C.C. placed a contract for the construction of a new "Hackney Car Shed," as it was to be called, on the same site. This was opened—for electric trams—in 1909 and taken over by the London Passenger Transport Board in 1933. The first trolleybus ran from the depot on June 11, 1939. Trams continued to use the depot until the night of November 4, 1939, when route 31 was diverted away from the area to Islington. The depot was renamed Clapton in July, 1950, to avoid confusion with the nearby Hackney bus garage in Well Street. Between 1938 and 1940 the L.P.T.B. stopped up 175 ft. of Bohemia Place and acquired the buildings on either side, which were subsequently demolished, to give improved access to the depot.

Lea Bridge

The Lea Bridge depot supplies only 19 trolleybuses for scheduled daily services. It is not being converted and will eventually be closed. For the time being it will be used for engineering purposes and as a turning point for trolleybuses on route 661. There are 21 trolleybuses at Lea Bridge, all of the K2 type. It was originally known as Leyton Depot but was renamed, like Clapton depot, in July, 1950, under a general scheme to rename certain depots and garages to avoid duplication of names. The depot was the original electric tram depot of the Leyton Urban District Council Tramways and was opened in the summer of 1906, although it was used by horse cars only until December 1, 1906, when the first electric services commenced. Horse cars continued to use this depot until they were finally withdrawn by the Council on December 9, 1908. During the 1914-18 war, the depot was damaged by bombing.

In December, 1926, the L.C.C., which had virtually taken over the Leyton system in 1921, proposed to close the depot. This scheme came to nothing because West Ham Corporation, which was asked to take over the operation of some routes, had insufficient cars to do so. In 1930 Leyton ordered 60 bogie cars of the L.C.C.'s latest E3 type to replace its own original single-truck cars which were then in a poor condition. The curves into the western side of Leyton depot were too sharp for bogie cars, so a traverser was installed in 1931 just before the new cars were delivered. On June 10, 1939, Leyton depot ceased to operate trams, trolleybuses taking over the services the next day.

Nightingale Engineering Co., Limited, Western Lane, Nightingale Lane, London, S.W.12, has been appointed York trailer distributor for the counties of Surrey and Sussex and all south-west London postal districts south of the Thames. Reading Garage Co., Limited, Cork Street, Reading, Berks, has been appointed York trailer distributor for an area bounded by lines linking Hungerford, Wantage, Oxford, High Wycombe, Camberley, Basingstoke and Hungerford, and for Maidenhead to the Thames Bridge on the London Road.

Illustrating the part the British Petroleum Co., Limited, plays in providing fuels, lubricants and special petroleum products for use in agriculture, a mobile exhibition is to tour European countries during the summer. A feature of the exhibition will be the Sno-cat tractor *Haywire*, the first land machine to cross the Antarctic continent, which was presented to B.P. in recognition of its contribution of fuels and lubricants to the Trans-Antarctic Expedition. The exhibition is leaving the United Kingdom this month and during its European tour will be displayed at major fairs and shows.

At the International Technical Spring Fair, which will be held in Utrecht, Netherlands, from April 15 to 24, an important section will be devoted to technical marine equipment. This shipbuilding group, featuring 300 exhibits by Dutch and foreign manufacturers, will be the venue for a special shipbuilding day on Wednesday, April 22, when experts from England, Germany, Norway and the Netherlands will deliver lectures on the use of nuclear power for the propulsion of ships and the problem of adapting national industry to the high demands for quality and precision of equipment and materials used in nuclear power installations.

A former Newcastle upon Tyne tramcar preserved by the Tramway Museum Society and now on show at Beaulieu in the Montagu Motor Museum

This Atlantean 78-seater bus is not only the first of twenty for Wallasey Corporation, but is also the first municipal omnibus in Great Britain with front entrance and rear engine. The MCW body of lightweight metal construction is integral with the Leyland Atlantean rear-engined chassis. As the doors are under the control of the driver, passengers cannot board or alight when the vehicle is moving. "Lost" fares will, therefore, be reduced to a minimum. Operation of this unique vehicle has already evoked praise from the public, union officials and platform staffs alike.

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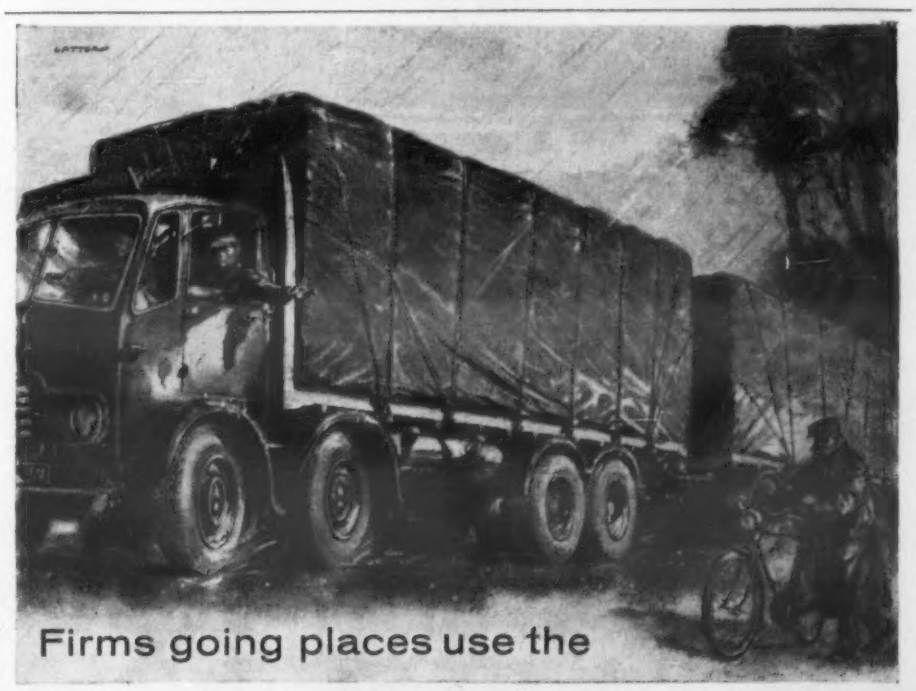

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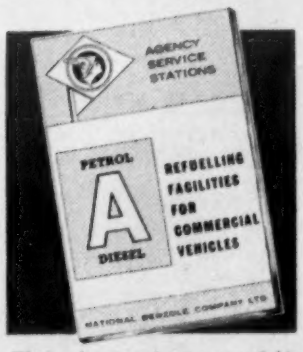

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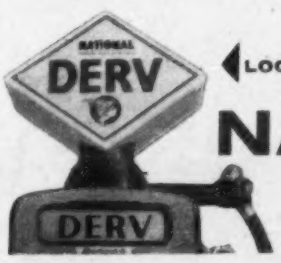

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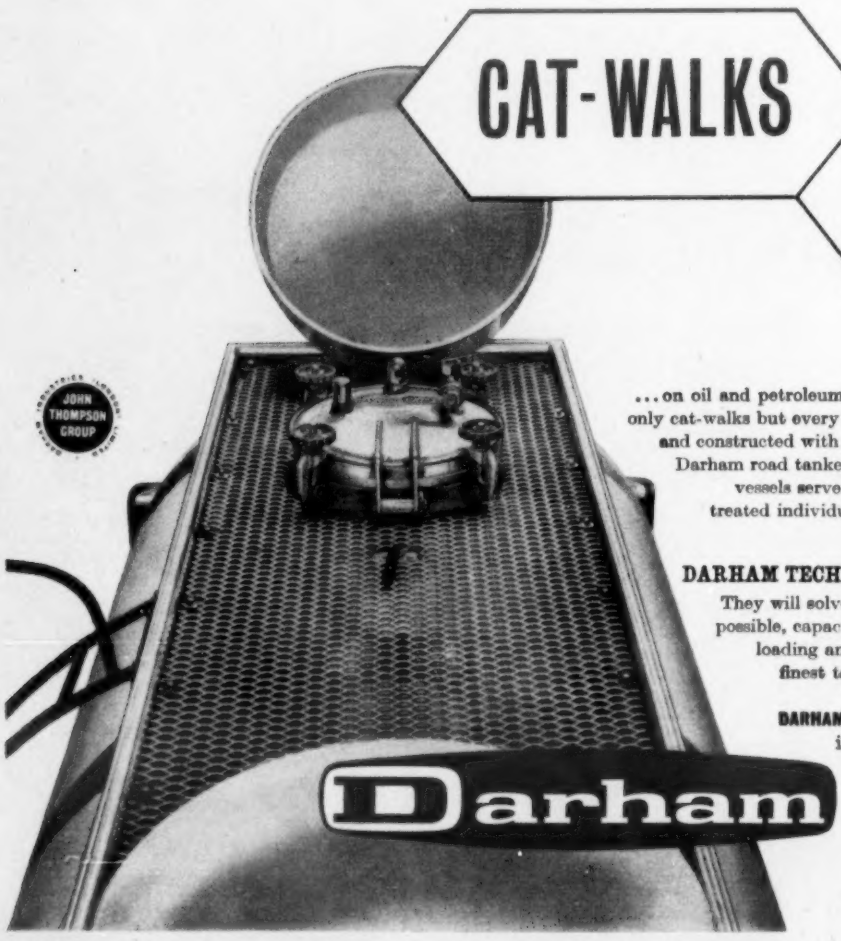

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SUPERSONIC LUBRICANTS

Developed by U.S. Scientists

SCIENTISTS of Shell Development Company, in the United States, have succeeded in producing advanced lubricants for supersonic flight by aircraft or missiles that can withstand both nuclear radiation and a wide range of temperatures. Developed for the Air Research Development Command of the U.S. Air Force, the lubricants are made basically from benzene, a petroleum derivative and oxygen from the air, and are called polyphenyl ethers.

The Shell scientists found that certain polyphenyl ethers remained stable under conditions of radiation exposure and high temperature met with in supersonic flight. Results showed that the new lubricant could resist heat decomposition to temperatures of over 800 deg. F.—an increase of more than 200 deg. over present lubricants. It could also withstand more than five times the amount of radiation possible for standard lubricants and it remained stable to oxidation at temperatures of up to 600 deg. F.—another advance of more than 200 deg. Development quantities of the ethers are still undergoing laboratory tests at Emeryville, one of Shell's laboratories in the United States.

★

B.R. AND THE TRADER

(Continued from page 5)

the L.M.S. Railway. But until the last few years there has been little fundamental change in design, although specialised types have been developed. The main defects of what might be called the classic design of "B" type container are its relatively high tare weight and its relatively small cubic capacity; experiments are now proceeding to eliminate these two troubles. Despite years of trial no really satisfactory and effective mechanical means have so far been discovered for transferring containers between rail and road, other than by crane.

(iii) *Wagons:* Our short-wheelbase British open and covered wagons of conventional type are far from ideal fast-runners. There is too much oscillation and movement generally, and before things are really satisfactory we shall have to build longer vehicles on two axles and with a larger payload, which will, of course, be in keeping with the objects of our new charging powers. This will mean great terminal problems, both of our own and for other people, if we bear in mind that many private sidings and a fair proportion of the Liverpool Dock system, for instance, could not at present deal with wagons having a much longer wheelbase than that of today.

The Price Problem

Now we must turn to the other half of the story dealing with price, as there is not time to go into all the multifarious needs of traders who send bulk solids or liquids about the country to an increasing extent; all I can say here is that one or two hopeful experiments are going on here covering road-rail transfer of such commodities—of which you may hear more before very long. As to the operation of the new charging system, it stands to reason that when one is changing from one tradition (that of a rail monopoly) to a completely different one based on free competition, working in ratio to what is in fact a very simple road cost factor many things must happen, apart from the mental upheavals involved for those on the job and the actual revaluation of past and present, to say nothing of future, policies.

For a time the majority of the old charges remain, and in a period of recession and financial difficulty one can hardly expect the charging experts to be very enthusiastic about changes, especially downwards. That phase is passing and more and more such people are being displaced by other people lacking any sort of tradition and intent only on getting business for the railway whatever the consequences.

Some Examples

It seems so simple to do things like this, and even in many cases to continue to make a profit, but there are snags. Firm A meet one of the new school who fixes up a deal under which traffic long since lost to competing hauliers comes back to rail, perhaps under a so-called private agreement. Word gets around and it is not long before firms C and D come along, slightly disgruntled and claim as loyal supporters of the railways at least as good treatment. Bang goes some revenue. Or a large concern, handing us thousands of tons of highly profitable traffic, discovers by accident (such as a strike) or design that it can convey a certain regular stream by road, at half our price; does one cave in and cut the rate, knowing full well the inevitable landslide, or decide to stick it out?

Or, thirdly, an enterprising officer at X, thinking of his originating receipts, does an exercise to put his trader friend on a market in district Y, only to find that in the process he has displaced traders in district Z who previously gave all their business destined for district Y to rail. There are answers to all these points, and I only mention them to indicate the type of thing which is happening all day and every day—so much so that the work of a rates man in these days, though perhaps more exciting and rewarding than that of his forebears, raises many difficult and intricate problems for which special qualities are required. The fact that road rates themselves are being cut to ribbons and that there is a great excess of transport in the country does not help.

Study of Human Nature

To meet the traders of today our ideal negotiator has to be a student of human nature as well as an expert in his field. He must be ready to call the other man's bluff when necessary; he must know the answers as affecting a particular trade or industry; he must be quick in his decisions if he is to get his man before someone else does, and yet not be foolhardy; he must quickly weigh up ultimate consequences as well as the immediate benefit; and, above all, he must play straight and avoid any suggestion of unreality in his claims for railways in general or for the particular service with which he is dealing. In fact his job is one which I would not willingly impose upon anyone in this room tonight. Yet the fact remains that many of them do it, day in and day out, with little thanks but with satisfaction over a job well done as their main reward.

Amid all the excitement of planning a new railway and adjusting old traditions to new circumstances we are carrying out a job which has no rival for sustained interest and variety and constant refreshment of the mind. But our greatest and more immediate task is simply to bring home to our customers the plain fact that British Railways can and do provide a first-class services to all who use them. This is precisely what the L.M. Regional management has set itself to do in the year 1959.

ROAD VEHICLE INDUSTRY

Short Wheelbase Super Comet

JUST introduced by Leyland Motors, Limited, is a short-wheelbase dumper chassis with a gross rating of 14 tons and available with left- or right-hand controls. It joins the range of Super Comet goods vehicles, which incorporate the 110-h.p. diesel engine, five-speed gearbox and double-reduction or two-speed axle. The new dumper, known as the 14SC5R and L model, is additional to the existing 12 ft. 6 in. tipper. It has been designed with a 9 ft. 10 in. wheelbase and an overall length of 16 ft. 4½ in. This wheelbase has already proved to be a most popular one in the forward-control 12-ton g.v.w. Comet range. The main purpose for the new dumper is quarry and site work, in which case it is not subject to purchase tax. Its short, stiff frame is ideal for high-angle tipping mechanism of up to 70 deg., taking a scow-end steel body with cab roof protecting canopy. For high-angle tipping, the return of the body to the horizontal position can also be hydraulically powered.

The first of the Automobile Association's distinctive fleet of Motorway Patrol vehicles in service on the Preston By-pass; right, a view into the rear of the Ford Escort which carries over 100 items of equipment designed to meet all contingencies

Timely Lucas Reminders

TIMELY reminders to intending road travellers on the Continent issued by Joseph Lucas, Limited, and now available free of charge from the Central Advertising Department, Great King Street, Birmingham, 19, are Publication No. 1776, giving details of advisable checks of vehicle electrical equipment and of the Lucas (returnable unused) touring spares kit, and Publication No. 904G, giving details of official Lucas agents in all Continental countries and advice on overseas lighting regulations.

Commer-Karrier Changes

BOTH Commer 5-ton and Karrier Gamecock 3-4 ton forward-control vehicles are now available fitted with the Rootes three-cylinder opposed-piston two-stroke diesel engine. In these applications the engine is set to give 85 b.h.p. at 2,400 r.p.m. and a maximum torque of 225 lb./ft. at 1,200 r.p.m. As with the Commer medium diesel and petrol engines, the engine is mounted below the cab, providing a flat cab floor line and cool, quiet and fume-free driving conditions. Also introduced by Commer Cars, Limited, is a power take-off designed to transmit 20 b.h.p. at 1,500 r.p.m. for the constant-mesh five-speed gearbox, which is fitted as standard on the Commer 12-ton tractor and is available optionally on 5 to 10-11 ton goods chassis and the Avenger coach.

Successful Perkins Four 270D

IN the rigorous Nebraska Tractor Test a Canadian Cockshutt Model 560 tractor powered by the new Perkins Four 270D direct-injection diesel engine is reported recently to have returned the lowest specific fuel consumption figure ever recorded for standard production multi-cylinder in-line engines. The specific fuel consumption of 0.396 lb. per b.h.p.-hr. at full load is believed to be the lowest ever recorded, except for a tractor with a slow-speed horizontal two-cylinder engine, which is not directly comparable. The first Model 560 tractors with the new British diesel engine—the first Perkins direct-injection unit—have now started to come off the production line at the Cockshutt plant at Brantford, Ontario.

Rise in Gearbox Orders

A REPORT from the automobile gearbox division of David Brown Industries, Limited, on the current order position indicates that the recent measures taken by the division to reorganise its production facilities and to extend its range of products have brought good results. The Huddersfield company, which is a leading manufacturer of commercial vehicle gearboxes, states that its delivery schedule for the first quarter of 1959 shows a considerable increase over deliveries completed during the corresponding period last year. A detailed comparison shows that current orders for gearboxes suitable for vehicles with payloads up to 50 tons are almost double those in hand a year ago and the same applies in the case of gearboxes for vehicles in the 3 to 4 ton class. But the most spectacular increase has been in the demand for gearboxes suitable for medium-capacity vehicles up to 10 tons payload, for which orders are four times as numerous as last year at this time.

Vauxhall Suggestions Scheme Record

LAST year was another record year for cost-saving suggestions by employees of Vauxhall Motors, Limited. The company paid out a total of £14,446 10s. in awards for 1,205 successful suggestions, out of 5,745 considered during the year. This compares with £6,093 5s. paid for 692 successful suggestions in 1957. Four suggestions earned the maximum award of £450 and 26 were worth more than £100 each. A shield is presented each year to the factory area with the best suggestions record—based on a points system that takes into consideration personnel, the number of suggestions and amounts awarded; 1958 winners were the engine and gearbox area, with the two Luton press shops second and third. The suggestions scheme was inaugurated in 1942 as part of the war effort and has grown to become an essential part of Vauxhall business methods. A total of £48,192 has been paid out since it started.

Diesel Fuel Additives

THE tendency of some fuels to cause injector sticking and filter plugging in certain diesel-engined vehicles might be overcome by adding small amounts of two Du Pont chemicals to the fuel, according to tests conducted in the United States. In one field test, Du Pont's Petroleum Chemicals Division reported, the addition of 1.5 lb. of Fuel Oil Additive No. 2 (FOA-2) and 0.05 lb. (a little less than an ounce) of Metal Deactivator (DMD) per 1,000 gal. of diesel fuel solved an injector sticking problem in several different makes of tractor. Half that amount of additive ended injector sticking and filter plugging in a second test with another group of lorries under similar conditions. Also significant was the experience of a company operating high-speed heavy-duty diesel lorries in cross-country service in the western half of the United States. The firm found the service life of injectors in its diesel engines was doubled, and sometimes tripled, by use of about 1¼ lb. of Du Pont FOA-2 per 1,000 gal. of fuel.

Le Tourneau latest is this diesel-electric road-building machine, here seen at work on a new motor road at Dallas, Texas. The two "buckets" are self-loading and have a capacity of 50 tons (loading is said to take only 1¼ min.) and all eight wheels are driven by the Le Tourneau patented hub-mounted electric motors and reduction gears

Improved Glow Plug by K.L.G.

AN entirely new type of glow plug for diesel engines, in which a sheathed element replaces that of the conventional exposed-coil plug, has been produced by K.L.G. Sparking Plugs, Limited, in conjunction with Metropolitan-Vickers Electrical Co., Limited, which produced the element. A number of specific advantages, and increased efficiency in general, are claimed for the new plug. A major point is that, with a working end diameter of only ⅛ in. compared with about ⅜ in. diameter of the average conventional exposed-coil plug, the new sheathed element heater needs a correspondingly smaller entrance hole into the precombustion chamber. This allows larger coolant passages around the precombustion chamber and reduces lost compression effect, giving noticeable improvement in power. The main feature of the plug construction is that the vital heating element is protected within insulating material, itself shrouded within an Inconel sheath, so that combustion gases, which tend to deteriorate the elements of exposed-coil plugs, cannot reach the element wire. The element can be designed to work at the full battery voltage and the plugs can be wired in parallel instead of series so that if one becomes unserviceable the others will continue to function. Current consumption for a four-cylinder engine is said to be only 20 amp.—about half that of most open-coil plug systems, giving improved starting efficiency. Two types are at present available under experimental type numbers—E444 (long reach) and E448 (short reach), both with 10-mm. mounting threads.

The cabs of Atkinson lorries are constructed of polyester/glass fibre by the hand lay-up method on a metal mould.

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Cabs for commercial vehicles are ideally made of structural plastics. Atkinsons Vehicles Ltd., of Walton-le-Dale, are now constructing the cabs of their diesel lorries with Beetle polyester resin/glass fibre, and the example shown—one of a fleet of new vehicles supplied to Robinson's Transport (New Worley) Ltd.—fully exploits the advantages of structural plastics. The cab is of one-piece construction, giving lightness, strength, and durability. Any knocks or damage can be easily and cheaply repaired.

Atkinson Vehicles Ltd. now fit lighter, more durable cabs than hitherto, and the net weights of their vehicles are reduced with advantage to their payload capacity.

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"O Frederick, why pine for the open road now that we have our own little home at last?"

So frequently did Tabitha surprise him at the casement that she remarked with satisfaction on Frederick's appreciation of the view. "Pshaw" he replied with some ferocity. A sudden jealous thought then pierced her heart, and with wiles and smiles she sought to distract him.

But not for manly Frederick were the cushioned pleasures of the idle rich. She might proffer roses but he yearned for sterner stuff. A more potent liquid occupied his thoughts than her mulled wine. For louder than the songs she sang him was the call of the open road. With bursting heart he remembered his trusty chariot thundering north, the magic fluid coursing through its metal veins. O the power of that fluid!* O his mastery of the wheel!

When next Tabitha cast herself reproachfully at his feet, he cried in frenzy, "Restrain yourself, woman. I would have other wheels than fortune's!"

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* The finest quality Derv—BP Derv—is available at Agency sites throughout Britain. With a Shell and BP Derv Agency card your drivers can fill up with BP Derv on credit or for cash at Agency rates. The sign on the right is the sign they should look for.

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NEWS FROM ALL QUARTERS

Maidstone By-Pass Work

The Minister of Transport is to inaugurate work on the west section of the Maidstone by-pass, from Chatham Road to Ditton.

Pocklington Canal

Farmers and landowners with water rights on the Pocklington Canal in Yorkshire have been sent a letter by British Transport Waterways explaining that Sheffield Corporation proposes to establish a water treatment plant which might discharge sludge into the canal. The B.T.C. proposes to transfer this 10-mile canal to Sheffield Corporation.

Ceylon Tyre Factory

Ceylon and the U.S.S.R. have signed an agreement to set up a factory in Ceylon that will annually produce 360,000 tyres and tubes. The agreement was signed under the Ceylon-Soviet economic aid scheme. There are at present 102,300 motor vehicles on Ceylon's roads. Ceylon imports 120,000 tyres and 80,000 tubes a year.

Austrian Railways Plans

The Austrian Federal Railways administration has announced that by 1975 there will be no more steam trains on the state network. A policy of replacing steam services by diesel operation before turning over to electrified running is to be continued, and many short-distance services will be dieselised, including all services in the Lienz area. Diesel services have been running between Vienna and Graz, Vienna and Villach, Graz and Linz and Graz and Salzburg while electrification plans for these lines are going ahead, as well as on some international routes.

P.C.C. Tramcars for Yugoslav System

The D.C. Transit Company, of Washington, U.S.A., has sold 50 P.C.C. tramcars for further service at Sarajevo, in Yugoslavia. They are being overhauled at Washington and repainted in the standard green Washington livery, and will be equipped with couplers in Sarajevo for multiple-unit operation. The existing tramways in Sarajevo have a brown livery, and run on 760-mm. gauge track, the same gauge as used by most of the local railways. It is understood, however, that the standard-gauge American cars are to be used on an entirely new rapid-transit line, which will be the first such installation in Yugoslavia.

Computers on Interline Settlements

A major step in the simplification of railway accounting in the U.S.A. was taken in Chicago last month when the settlement of interline freight accounts between three major railroads was effected through a simple exchange of magnetic tapes. The systems are the Illinois Central Railroad, Union Pacific Railroad, Omaha, and Southern Railway (Washington, D.C.). The information on the tapes is fed into large-scale compatible data-processing machines already used by the receiving railroad. A large volume of accounting work will be automatically audited and verified, with the result that mistakes will be minimised and the entire accounting process speeded.

More Scottish Railbus Services

From April 6, a Park Royal-B.U.T. 50-seat diesel railbus will operate the Ayr—Dalmellington branch of the Scottish Region and a 56-seat Bristol-E.C.W.-Gardner unit will provide the local service on the Beith—Lugton branch.

Telescopic Canvas Lorry Tilt

John Smith and Co. (London), Limited, Chadwell Heath, Essex, has developed a new type of canvas lorry tilt. It is mounted on a lazy-tongs framework so that the whole canvas cover can be telescoped by one man and can be fitted to flat vehicles or to fixed or dropsided bodywork.

Standees on 76-Seat Buses

Sheffield Transport Department has rejected a request by the Transport and General Workers Union to reduce the number of standing passengers allowed on its new A.E.C. Bridgemaster 76-seat buses. The union alleged that the drivers and conductors were meeting difficulties. The standing limit is eight.

Better Lighting for Underground Stations

London Transport is to improve or renew the lighting of 14 of its Underground stations this year; at two of the busiest interchange stations, Tottenham Court Road and Holborn, fluorescent lighting is being installed. The existing main feeder circuits for lighting these stations will be adequate to handle the new lighting load because of the lower consumption rate. There should be substantial savings in maintenance, as fluorescent tubes have a very long life compared with that of tungsten lamps.

Banstead and Southampton Road Improvements

The Minister of Transport has made a grant of £164,000 to Surrey County Council towards the cost, estimated at £218,000, of removing a traffic bottleneck on the main London—Reigate road (A217) between Banstead and Burgh Heath, where the existing carriageway is only 22 ft. wide. The scheme provides for dual 24-ft. carriageways for a length of 1¾ miles. A three-quarter mile western section of the Southampton inner ring road is the subject of a grant, the total cost to be £400,000. This section of new road will run west of Above Bar Street to join the eastern section of the ring road at its junction with High Street. The carriageway will be 33 ft. wide.

New Round of Wage Claims?

London Transport last week received from the National Union of Railwaymen a claim for a substantial wage increase for some 18,000 Underground railwaymen similar to that submitted for British Railways staff. A request from the Transport and General Workers' Union for a resumption of negotiations on shorter hours for bus crews was also sent to London Transport. Resolutions in favour of claims for higher pay for more than 200,000 busmen throughout the country will be considered by the national passenger service group committee of the Transport and General Workers' Union at its next meeting on April 14. Resolutions advocating a claim for a shorter working week are considered also likely.

THE STEEL COMPANY OF WALES LTD

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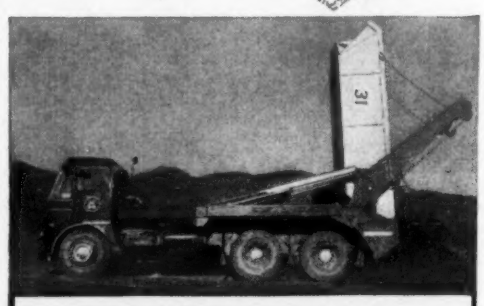
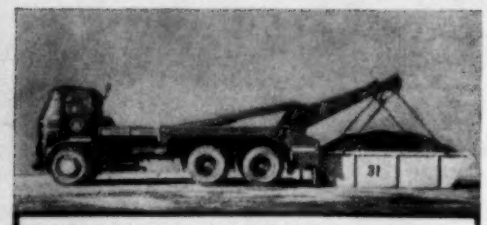
Mobile Multi-bucket System

Using the Bennes-Marrel Multi-bucket System, The Steel Company of Wales Limited are convinced that a considerable saving in the handling of a wide variety of materials can be achieved. As a result, they have ordered **six complete units** on Foden FG.6/20 Chassis for on-site operation.

Consider your own handling problems in the light of this important development.



Positive action hydraulically controlled rams provide easy dumping.



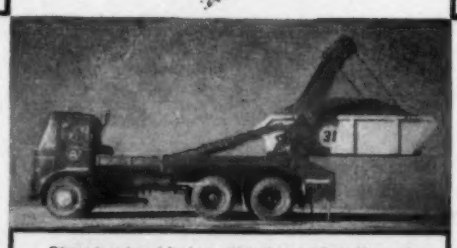
Rear independent hydraulic stabilizer jacks down. Load to be raised to Unit Deck.

Hydraulically operated rams fully retracted. Load located on Unit Deck. Jacks retracted.

One-man operated . . . an astonishing time and labour saver . . . the Bennes-Marrel Mobile Multi-bucket System brings to the field of bulk materials handling a new standard of efficiency.

Hydraulically controlled solely by the driver from his cab the unit loads and unloads itself with detachable containers, one of which is transported whilst the other is being loaded. This, of course, effects astonishing savings in waiting time and labour costs.

We shall be happy to send you our fully descriptive brochure, or to examine your handling problems and make our recommendations.



Showing load being raised by retraction of hydraulically operated lifting arm rams.

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COMMERCIAL AVIATION

Qantas Jet Service Date

CONVAIR 540 TOURS

THE Qantas Empire Airways jet service from Britain to the United States and Australia will begin on July 31. On that day a Boeing 707 will leave London Airport at 11 a.m. for New York, San Francisco, Honolulu, Fiji and Sydney. It will almost halve present travelling time, arriving in Sydney at 10 a.m. on August 2, only 38 hours after leaving London. This service between London and Sydney will be twice weekly and from August 18 Qantas will introduce two more trans-Pacific services from Sydney which will terminate at San Francisco, connecting there with B.O.A.C. Britannias for London. Later in the year as Qantas takes delivery of the rest of its jet fleet, it will introduce the 707s on the Kangaroo Route from London to Australia through the Middle East and Singapore.

Control of Aerlinte

The Irish Government has decided that all the share capital of Aerlinte Eireann should be held in Ireland. This precludes Seaboard and Western holding the interest which was originally intended.

Preparing Kloten for Jets

The Swiss Parliament has approved a grant of Sfr.50,282,000 (£4,190,200) to carry out a modernisation programme at Kloten Airport, Zurich, to prepare it for jet aircraft. This includes the lengthening of runways and enlarging of the aprons. The Canton of Zurich and Swissair are also contributing towards the scheme.

New Services Approved

The Minister of Transport, after considering the recommendations of the Air Transport Advisory Council, has approved the operation of the following air services:

An internal service between Cambridge and/or Luton and Jersey; Derby Aviation, Limited, until Ocobtor 31, 1964.
An inclusive tour service between Lydd and/or Manston and Palma; Britavia, Limited, from March 27, 1959, to October 19, 1959, and for corresponding periods in 1960 and 1961.

B.E.A. Viscounts to Tangier

Flight times between London and Tangier were reduced by an average of three hours from April 3 when a Viscount of British European Airways inaugurated a new service from London. There are eight flights a week. Six call at Gibraltar and the other two also at Madrid. Previously passengers changed at Gibraltar to the Pionair aircraft which B.E.A. operated on behalf of Gibraltar Airways. The new Viscount flights, which are possible following the runway extension at Tangier, are also operated by B.E.A. in association with Gibraltar Airways.

Southampton Still Unwilling

Further attempts to get Southampton Corporation to reconsider its attitude to Southampton Airport—for which it has declined any financial responsibility—were voted down at the latest meeting of the town council. The Ministry of Transport has decided to close the airport in 1961 unless some other organisation is prepared to operate it. Alderman George Radwell, leader of the Conservative opposition in the council, requested that the corporation should be officially represented at a conference to be called by the airport consultative committee, but the proposal was lost and another amendment, calling for "every endeavour short of financial implication," was similarly defeated.

P.A.A. Exceeds 100 million Freight Ton-Miles

In ten years Pan American World Airways has more than tripled cargo ton-miles on its round-the-world routes, Mr. Willis G. Lipscombe, vice-president, traffic and sales, said in announcing that the airline passed the 100 million ton-mile mark in 1958. Cargo carried by P.A.A. in 1958 amounted to 100,904,000 ton-miles, he said, compared with 32,159,256 ton-miles in 1948. During 1958 Pan American's cargo tonnage was almost double that of any other international carrier. The 1958 figure represented a 5 per cent growth in tonnage over 1957 on a worldwide basis. Transatlantic cargo ton-miles increased 12 per cent during the same period.

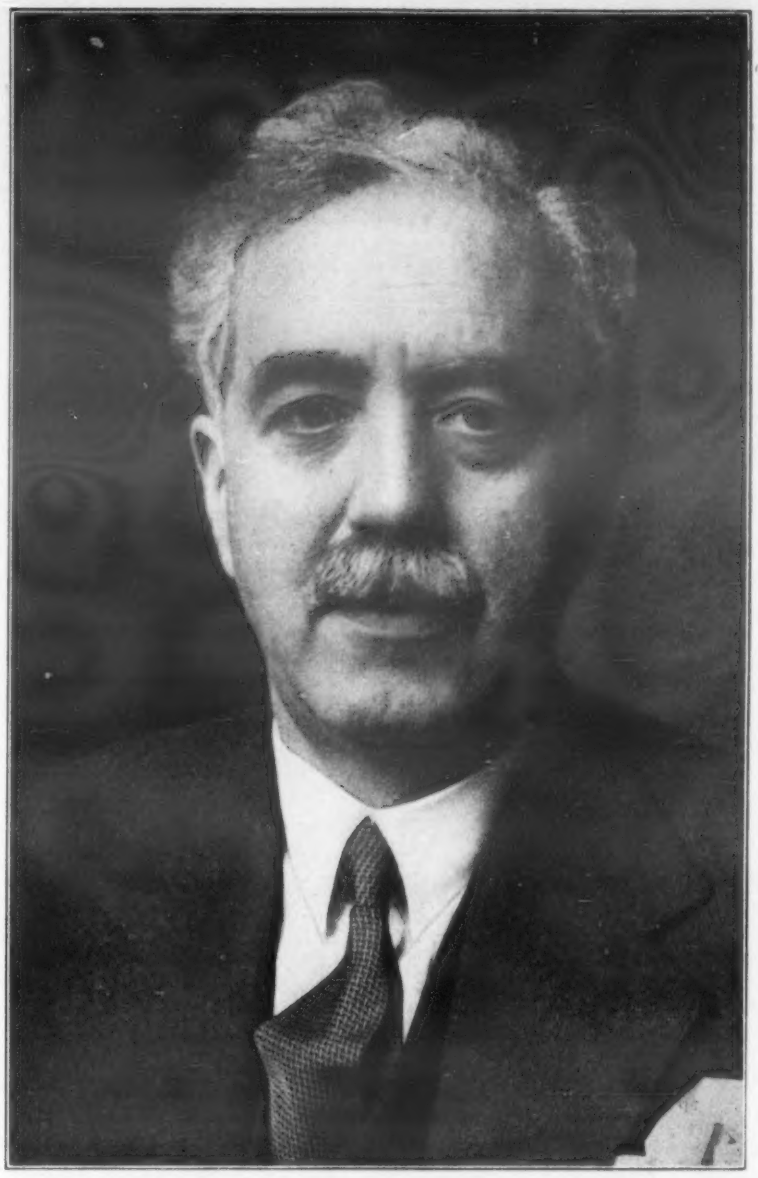
American Airlines Results

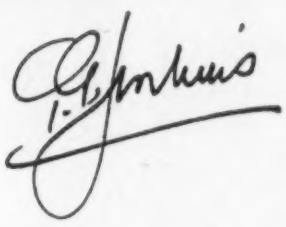
American Airlines reported net earnings of $13,054,000, exclusive of profit on the disposal of property, for the year ended December 31, 1958. In addition, there was a profit (net after tax) of $3,026,000 from the disposal of property. Total net earnings amounted to $16,080,000, compared with $10,886,000 for 1957 when there was a profit of $1,792,000 (net after tax) from the disposal of property. Mr. C. R. Smith, president, stated that revenues for 1958 were a record $317,240,000, an increase of 3.7 per cent over the $305,956,000 reported for 1957. Revenues were adversely affected by the business recession in the early part of the year and by the pilots' strike, which lasted from December 19, 1958, until January 11, 1959. It is estimated that revenues for 1958 would have been $329,000,000 if the strike had not occurred. During the year, American Airlines carried 7,809,000 passengers a total of 5,021,364,000 revenue passenger miles. This represented a decrease of 2.4 per cent compared with the 5,142,593,000 revenue passenger miles for 1957—the decline was attributable to the pilots' strike. Freight ton-miles totalled 94,393,000—an increase of 9.7 per cent over 1957.

Canadair Convair 540 Tours

The first of three world sales tours of the Canadair 540 turboprop transport began on March 23 when a 540 left Montreal for a 17,000-mile tour of the United States and Western Canada. A second Convair 540 leaves late this month for a 25,000-mile tour of South America, and a third is to leave in May for a tour of Europe. The first 540 is visiting 19 North American cities in the next two months and cover 12,600 miles in point-to-point flights. The first stop was at Utica and subsequently points listed for call were New York, Washington, Atlanta, Houston, Dallas, Fort Worth, Las Vegas, St. Louis, Chicago, Detroit, Minneapolis, Winnipeg, Edmonton, Calgary, Vancouver, Seattle, San Francisco and Los Angeles. The South American tour includes stops at Havana, Barranquilla, Bogata, Lima, Santiago, Buenos Aires, Montevideo, Ascuncion, Porto Alegre, Rio de Janeiro, Sao Paulo, Salvadore, Belem and Caracas. The Napier Eland turboprop which powers the Canadair 540 has an output of 3,500 h.p. and has been approved for civil use by both the Air Registration Board of the United Kingdom and the Federal Aviation Agency of the United States.

RETIREMENT OF MINISTRY SECRETARY





Sir GILMOUR JENKINS, K.C.B., K.B.E., M.C., M.Inst.T.

• • • • • •

As already recorded in MODERN TRANSPORT, Sir (Thomas) Gilmour Jenkins retired on March 31 from the post of Permanent Secretary of the Ministry of Transport, which he had occupied since 1947 when his predecessor, then Sir Cyril Hurcomb, was appointed chairman of the British Transport Commission. When the Ministries of Transport and Civil Aviation were merged in October, 1953, Sir Gilmour became Permanent Secretary of the combined Ministries. Born on July 18, 1894, he was educated at Rutlish School and London University and served with the Royal Garrison Artillery in the war of 1914-18, in the course of which he was awarded the Military Cross and Bar. In 1919 he entered the Board of Trade, most of his early official life being spent in the Commercial Relations and Treaties Department. In 1934 he went to the Marine Department as an Assistant Secretary and head of the Safety Division and returned as head of the Commercial Relations and Treaties Department in 1937 with the rank of Principal Assistant Secretary. When the Ministry of Shipping was formed in 1939 he was made Second Secretary. From 1941 to 1946 he was a Deputy Director-General of the Ministry of War Transport and in this capacity was in charge of the shipping side of the Ministry. He was made Permanent Secretary of the Control Office for Germany and Austria in 1946, and, when that office was amalgamated with the Foreign Office early in 1947, he became Joint Permanent Under Secretary of State at the Foreign Office, which position he relinquished on his appointment to the Ministry of Transport. He was created C.B. in 1941, a K.B.E. in 1944 and a K.C.B. in 1948, and holds also a number of foreign orders and decorations. He was elected a member of council of the Institute of Transport in 1951 and a vice-president in the following year. Sir Gilmour was president in 1954-55, the year after he had held similar office in the Institute of Marine Engineers.

LETTERS TO THE EDITOR

Road Caravan Coaches?

IRISH SEA SHIPS

SIR,—Your query "Why not Road Caravan Coaches?" in Current Topics in your issue of March 28, is most provocative. For my part, I hope the suggestion will not be taken very seriously by the bus companies you mention, despite the service economies they are having to exercise. If they do, all the evidence points towards their making a further loss. My interest in caravans dates from 1932. I have been an active member of the Caravan Club since 1950 and have towed over thousands of miles, visiting numerous sites in this country in the last nine years.

From this practical experience I would make a number of points. The cost of converting a single-deck bus, to provide a reasonable standard of comfort for four people, is likely to be in the region of £300. Not much you say, but the operator will be lucky if he lets it continuously from mid-May to mid-September, i.e. 16 weeks, at an average of £10 a week. His outgoing expenses will include road tax, insurance, maintenance, depreciation, site fees, bottled gas supplies, drivers' wages each time the bus is moved (there will be few, if any, car drivers competent, or willing, to handle such a vehicle), plus other overheads such as a proportion of the rent (or its equivalent) and rates of the home garage and income tax. It is obvious, therefore, that the profit margin, if any, whilst the bus is let can only be small, and the operator still has the problem of how to dispose of his conversion, or conversions, for the remaining 36 weeks of the year.

Question of Sites

You mention the problem of finding camping sites. There is not the slightest doubt that a rash of buses around the coast would arouse more than antagonism in several quarters. There is a number of "black" areas where speculative land owners had allowed sites to become cluttered with converted public service vehicles of all kinds, with a consequent reduction in tone of the neighbourhood and, latterly, a fight as the local authorities moved in to clean up. However well-meaning, therefore, our bus operators would have a good deal of prejudice to overcome before they could establish themselves and it is doubtful if they would be able to find lots in any well-run public caravan site.

They are back then to individual locations, and, unless planning permission and a public health licence is obtained, a piece of land must not be used for more than 42 consecutive days or 60 days in all in any 12 months. This is a severe limitation and obviously imposed under the Public Health Acts to prevent the exploitation of land by commercial site interests. Supposing though that all of these difficulties have been overcome, is the site level? Is there a good approach from the road? Can the ground be used by a weighty four-wheeler whatever the weather, or will it sink in when it is wet? Is there drinking water? What are the sanitation arrangements? These are practical problems that even the experienced mobile club caravanner, free to go wherever a landowner will grant permission, has at times difficulty in solving. All this and the convenience and amenities of the site for the holidaymaker have still to be considered. The railways have several advantages over the bus companies, and it is believed that not the least of these is the fact that most of their sites were first used between 1918 and 1939 and were started when there was little competition from the caravan industry.

Today, the caravan manufacturers have a terrific output and cater for four distinct classes of user:

1. The mobile caravanner who tows for sport and pleasure. The Caravan Club alone has nearly 30,000 members.
2. The mobile residential—trade representatives, artists from the entertainment world, service personnel, etc., all of whom prefer house comforts, even in a caravan, to "digs."
3. Static residentials—caravan living from choice or necessity.
4. Letting caravans, mostly static for holiday makers.

Undoubtedly bus bodies have been converted and there have been a proportion of purpose-built vehicles, but it is suggested that, apart from the static sites referred to earlier, they have been mostly by or for the fairground people and even here they are losing favour and are being replaced more and more by the two-wheeled caravan.

The writer can recall seeing only one bus caravan used for pleasure and that was at the Caravan Club National Rally at Overstone, Northampton, in 1952. The same vehicle was seen later the same year on the Solent Breezes site, Fareham, Hampshire. A chat with its owner at the time revealed the fact that it was considered uneconomical, but it has not been seen since and it would be interesting to know its ultimate fate.—Yours faithfully,

LESLIE R. LEWORTHY.

17 *Gauntlett Road,*
Sutton, Surrey.

Irish Sea Ships

SIR,—Regarding your correspondent Mr. L. H. Bailey's comments concerning "Irish Sea Ships" in your issue of March 7, he states that *Lairds Isle* of Burns and Laird Line operates the daylight sailings to Belfast in summer months.

The *Lairds Isle* made her last voyage late in 1956 and was superseded by m.v. *Irish Coast* on the run from Ardrossan to Belfast. And it is known that in the past two summers this vessel was on that service. I was particularly fortunate in being, unknowingly, on the last run back from Belfast to Ardrossan in 1956. Being an old vessel it is presumed that she was an uneconomical ship to run, as *Lairds Isle* was built in 1911. To those not used to the route she was able to give her passengers some lively trips between Ailsa Craig and Belfast Lough as she crossed the North Channel.

The m.v. *Irish Coast* has not proved so popular, but she has the addition of stabilisers which helps on a route like Ardrossan—Belfast daylight service.—Yours faithfully,

ERIC J. CHARMAN.

181 *Croydon Road,*
Caterham, Surrey.

The Editor is always glad to receive letters from readers on subjects germane to the transport industry, but these should be written as concisely as possible. The opinions expressed therein must not, however, be regarded as having editorial endorsement. Where correspondents desire to use a nom-de-plume it is essential that the Editor should be informed of the name and full address of the writer as indication of good faith.

ENGINEERING—MARINE and WELDING EXHIBITION

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GREAT NORTH ROAD

Next Schemes to be Started

As recorded editorially in our issue of April 4, work is expected to start on modernising nearly 100 miles of the Great North Road (A1) during the next 12 months at a cost of nearly £23 million. This is the latest development of the £50 million plan to rebuild 220 miles of the road between London and Newcastle upon Tyne. New stretches of dual-carriageway road are being built to by-pass all the congested towns and villages on the route and the existing rural sections are being improved to take traffic one way only, while a second carriageway is added alongside or near the existing road to take traffic in the opposite direction.

Including some 10 miles rebuilt before the 1939-45 war there are already nearly 50 miles of double carriageway on A1 and more than £3 million has been spent on the work since the programme got under way. One stretch of double carriageway road in Huntingdonshire extends continuously for about 13 miles. Work is now in progress on additional stretches, totalling 20 miles, at a cost of more than £3½ million.

Motorway to By-pass Doncaster

Constructional work on the £5 million 15-mile motorway to by-pass Doncaster will be under way this summer. Contractors have submitted tenders and the successful bid will shortly be known. This part of the road will be for motor traffic only and will eventually be joined by the London—Yorkshire Motorway. It will be necessary to build 26 bridges, including a six-span bridge, 683 ft. long and 70 ft. high, over the River Don.

At the southern end of the Doncaster Motorway there will be a short general-purpose by-pass for the village of Blyth. This will lead to a dual-carriageway section of road which joins the original A1 at Markham Moor, south of East Retford. Also to be started shortly are the £759,000 Biggleswade by-pass, 2¾ miles long, in Bedfordshire, and the £1¼ million 4½ miles Stamford by-pass in Lincolnshire, while, before the year is out, it is hoped that men and machines will be cutting their way through open land in Hertfordshire on the initial stages of the £2¾ million Stevenage by-pass; work on Grantham by-pass is also scheduled to start in 1959-60.

The Great North Road between Stamford and Grantham is already being transformed. At Colsterworth, in Lincolnshire, almost midway between them, a particularly spectacular piece of cutting work is going on to divert the road to the west and avoid a winding and dangerous hill. A bridge to take a railway over the road has been built below ground level by the British Transport Commission, and the rock below the span is being dug away. In a few months' time the whole job will be done and another potential hindrance on the London—Newcastle journey eliminated.

Catterick By-pass

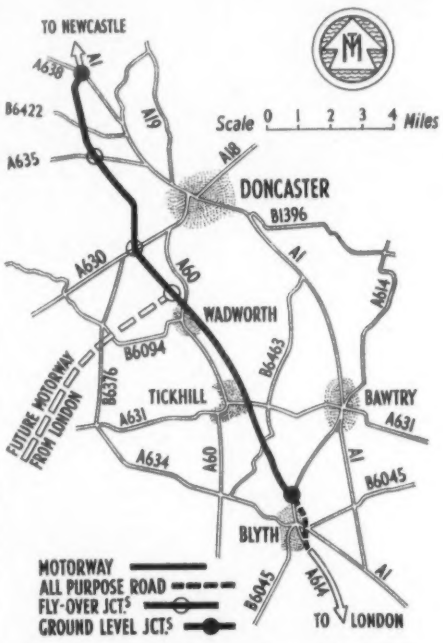
Much of the 400,000 cu. yd. excavation and embankment building has been done on the 3½-mile by-pass east of Catterick, which will cost £1 million, and a row of nearly completed bridges projects above the countryside, ready to take the road as it sweeps down to the River Swale. Here the footings of the river bridge are ready and, just to the south, cranes and bulldozers have been used to excavate a hole in which the nearby Catterick Racecourse grandstand could be completely buried. At the bottom of this hole foundations will be built for a bridge to take the new road over a side road, the line of which has been temporarily altered.

While such work is going on at a number of points away from the existing road a great deal is already visible to the passing motorist and is being done by small gangs of men with a few earth-moving machines. The tempo of such work is increasing especially in the North Riding and Lincolnshire. The latter presents a special problem with its long dykes running alongside the old road. These are being filled in and dug again on the other side of the site of the new carriageway.

Bridges and Fly-overs

The weak single 24-ft. carriageway bridge over the Don at Doncaster has been demolished and a new three-span welded steel structure is being built to carry two two-lane carriageways, a central dividing strip and footpaths. Traffic is already flowing on a completed half of this bridge and the remainder is expected to be open to traffic before the end of the year. After the A1 route has moved westward to the by-pass, this bridge will continue to form an essential northern approach to the town.

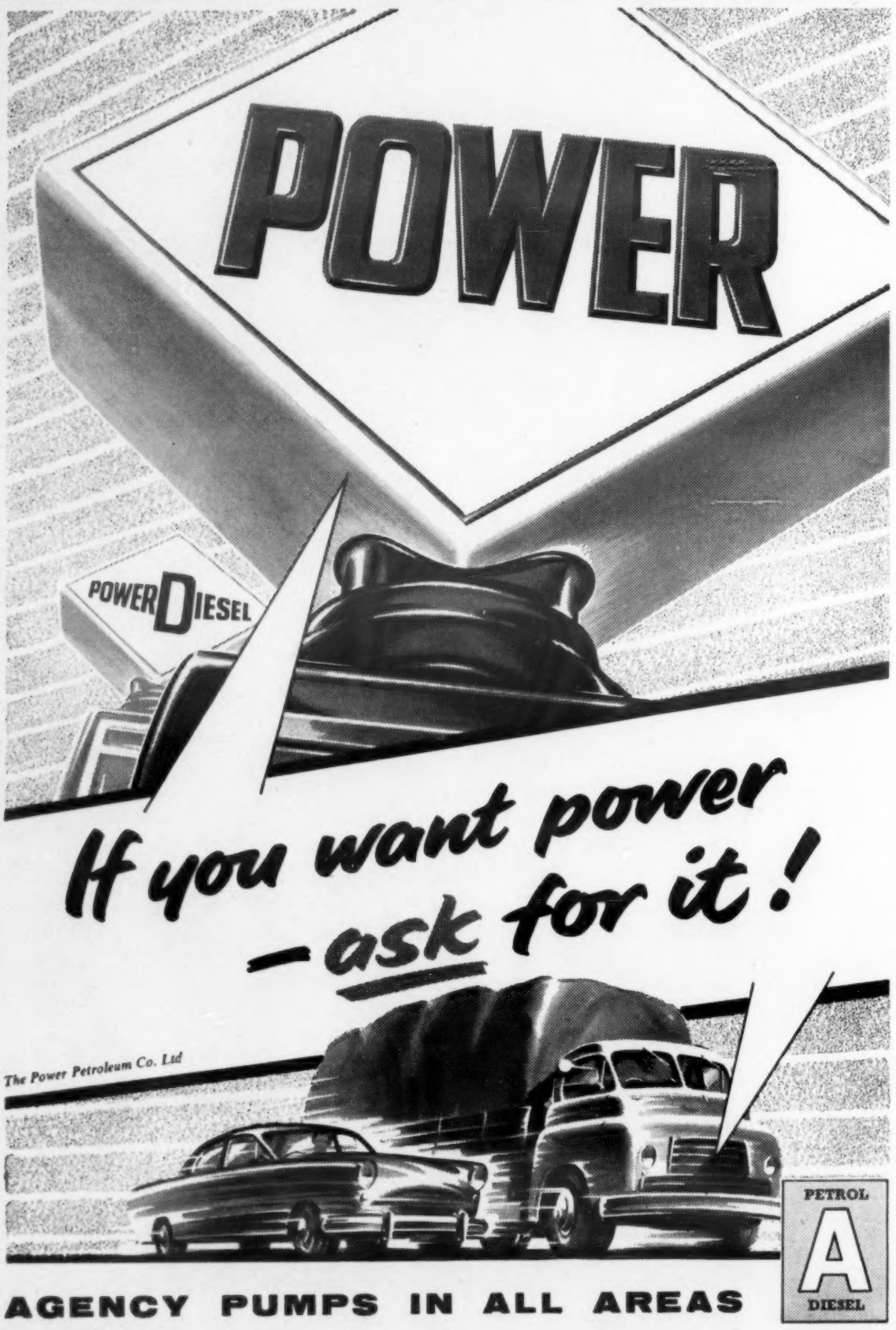
Ultimately there will be numerous flyover bridges, where side roads pass under or over A1 and a number of two-level junctions, where important roads join it. Among the first of these will be a two-level junction where the Barnet by-pass is joined by Cecil Road at Potters Bar and another where Elstree Way joins the same by-pass at Boreham Wood.



The route of the motorway which will by-pass Doncaster and also, in due course, connect with the London — Yorkshire Motorway

Agents and Contractors

The improvements are being designed and supervised for the Ministry by the following agent authorities: Middlesex, Hertfordshire, Bedfordshire, Huntingdonshire, Lincolnshire (Kesteven), Nottinghamshire, Yorkshire (West and North Ridings), County Durham and Doncaster County Borough Council. Contractors carrying out civil engineering work on the route include A. Monk and Co., Limited, of Warrington; Costello and Kemple, of Cheltenham; Robert M. Douglas (Contractors), Limited, Birmingham; Kelmark Civil Engineering, Limited, of Stevenage; Sparrow J. C. Munton, of Lincs; F. J. Smith and Company, of Asfordby; R. McGregor and Sons, Limited, of Manchester; Holland and Hannen and Cubbits, Limited; Crowley, Russell and Co., Limited; and McLauchlan (Knottingley), Limited.



AGENCY PUMPS IN ALL AREAS

OFFICIAL NOTICE

BRITISH RAILWAYS
EASTERN AND NORTH EASTERN REGIONS

SUPPLIES AND CONTRACTS MANAGER

APPLICATIONS are invited for a Supplies and Contracts Manager in each of the Eastern and North Eastern Regions of British Railways. The commencing salary payable would be within the range of £2,500 to £3,000 per annum. The Eastern Region post would have headquarters in London and the North Eastern post in York. Applicants should have sound negotiating ability, together with knowledge and experience of commercial practice and, while not essential, it is very desirable they should also have technical qualifications. Applications should, in the first place, be submitted to the Regional Establishment and Staff Officer, Eastern Region, British Railways, Liverpool Street Station, London, E.C.2.

[Other Official Notices appear on page 19]

TRAIN AND CAR FERRIES

Factors in Their Operation

*By J. P. CAMPBELL, M.I.N.A., Superintendent Marine Engineer, Southern Region, British Railways**

THE first recorded train ferries were built in the year 1851, an order being placed with Robert Napier of Glasgow by the Edinburgh, Perth and Dundee Railway for two self-propelled "floating railways," one for service on the River Forth between Granton and Burntisland, a distance of 5½ miles, and one for service on the River Tay between Ferryport-on-Craig and Brough, a distance of just under a mile. The former was named *Leviathan* and had dimensions of 172 ft. in length, a breadth of 34 ft., and a loaded draught of 6½ ft. The independent paddles were driven by two Steeple engines, steam being supplied by two boilers working at a steam pressure of 8 lb. per sq. in.

The other ferry, the *Napier*, had a length of 140 ft. and breadth 22 ft. Draught loaded was 5½ ft. Machinery comprised two oscillating engines, each of 56 i.p. The deck was fitted with two rail tracks and the ferry made six or seven double trips, averaging 180 wagons, per day. Loading was accomplished by shunting the wagons on to rails carried on the horizontal upper surface of a wedge-shaped travelling platform, which could then be moved down a slipway with a declivity of 1 in 8, until level with the deck of the vessel. The rails were connected to the track on the ferry and the wagons were transferred.

First Ferry in Open Water

The first train ferry to operate in open water was the Danish *Little Belt*, built in 1872 by Wigham Richardson. In 1872 Sir John Fowler put before Parliament a scheme to start an English Channel train ferry service with paddle-driven ships 450 ft. long by 57 ft. beam and a speed of 20 knots. This was passed by the Commons but rejected in the Lords by one vote. Although some of the early ferry services became redundant as bridges or tunnels were built, by 1906 there were more than 600 train ferries operating throughout the world.

As prior to the 1914-18 war all efforts to obtain Parliamentary powers to operate a train ferry service between this country and the Continent had failed, it may appear ironical that during the war the British Government decided as a matter of great urgency to have train ferries and the necessary shore terminals constructed. The need arose from the necessity to relieve shipping and quay congestion at the strategic ports, to save manpower, to free heavy-duty cranes for other purposes and to deliver materials to the theatres of war without transhipment at the ports. Three ferries were constructed and terminals built at Richborough and Southampton on the English side and at Dieppe, Dunkirk and Calais on the French side. Although the berths in the latter two ports were in closed basins the arrival and departure of the ferries were partly restricted by the working of the tidal entrances, so the whole service could be considered a tidal one.

Harwich—Zeebrugge

In 1924 these ferries were purchased by Great Eastern Train Ferries, Limited, which in conjunction with the London and North Eastern Railway inaugurated the Harwich—Zeebrugge service, the first commercial train ferry between this country and the Continent, which service today is operated by the British Transport Commission.

Train ferries have to operate under exacting conditions, because they are engaged in coastal waters on voyages of short duration and in all conditions of weather and tide. When their service is in the proximity of large ports they may have to cross busy shipping lines and at the approach to these terminals meet the dense traffic associated with these areas. It is therefore essential they have steering qualities of the highest order and that their propulsion machinery be capable of prompt response to all demands.

Continental Rolling-stock

With the exception of Russia and the Iberian peninsula the Continental railway gauge is the same as that in Britain, but owing to the freight trains on the Continent being much longer and, in consequence, very much heavier than in this country, stronger couplings would be required on the British rolling-stock if used abroad. The Continental railways consider the ferry services sufficiently important for them to supply all the necessary passenger coaches and wagons. Over 7,000 wagons have been specially constructed to cater for the goods carried, these comprise covered, open, refrigerator and insulated types, also motor-car wagons. The wagons which cross into Spain have their axles changed at the frontier stations to cater for the different rail gauge.

A factor in train ferry design takes into consideration that the only practical method of obtaining speedy loading and unloading, essential to limit the time spent at the terminals, is to employ the roll-on, roll-off principle. In consequence train ferries carry their cargo only above the bulkhead deck, thus differing from normal freight-carrying vessels in which all compartments below this deck with the exception of the machinery spaces can be utilised for the stowage of remunerative cargo. The number of tracks will vary according to the size of the ferry; in general on the seagoing type three or four are fitted. Unless operating in open harbours, dimensions of the ferry may be governed by the limitations of the harbour and/or terminal, and the introduction of new, larger ferries may involve major alterations to the latter.

Terminal Facilities

With regard to terminal facilities and if there is a small tidal rise and fall, as in the Baltic, 4 ft., loading can be carried out in an open harbour. All that is required is a bridge fitted with the necessary rail tracks, hinged at the shore end and capable of being raised and lowered to connect at the ship. The length of the link span as the connecting bridge is termed should be such that excessive gradients are avoided, in practise it has been found desirable to limit the latter to 1 in 20. Where there is a large tidal variation and the operation of a very lengthy link span may be considered impracticable the loading operation must be restricted to certain tide limits.

If the volume of traffic to be handled, or the time schedule of the service does not permit this restriction of working time, it will be necessary to arrange the terminal in a tidal basin in which depth of water can be kept within limits by means of lock gates, or, as was necessary at Dover, where there is a variation in tide of 28 ft., to construct an enclosed dock, somewhat similar to a graving dock. At this terminal the ferry enters the dock at any state of the tide, the gates are closed and water pumped in or out, until the train deck is level with the shore track.

Postwar Vessels

Of the many train ferries which have entered service since the war, one that created great interest was the Canadian Pacific Railway Company's *Princess of Vancouver*, 5,554 gross tons. Completed in 1955, she was the largest ferry and the highest-powered multi-engined motorship yet built in this country, and the first to be fitted with a bow lateral thrust. The *Essex Ferry*, 3,242 tons, built in 1957 for the Harwich—Zeebrugge service was a replacement for the last survivor of the 1914-18 Richborough scheme. This vessel has no passenger certificate, freight wagons only being carried; an innovation in the case of this ferry is the fitting of overhead electrically operated lifting gear in the train deck for off-loading containers from wagons and vice versa.

Saint Germain, 3,094 tons, was built in 1951 and operates on the Dover—Dunkirk service—the only passenger train ferry service from England to the Continent. Slightly longer and faster than the original ferries, the *Saint Germain* is otherwise similar, in that cars can be driven into an upper deck garage sited at the aft end and that the train deck can accommodate up to 100 cars when not carrying rail coaches or wagons. The design of car ferries follows closely that of train ferries in so far as vehicles are stowed above the bulkhead deck. The seagoing type is usually end-loading whilst those operating in estuarial waters, lakes or rivers can be either side- and/or end-loading, many carrying the vehicles on the open deck.

Car Ferry Bridges

Terminal facilities provide for cars being driven off and on the ferry in a regulated stream over a connecting bridge. But as larger working gradients (1 in 8) than in the case of a train ferry link span can be accepted and as the free end of the bridge need not be rigidly secured to the deck, the terminal can usually be arranged in an open harbour. Included among the many seagoing car ferries recently built or building are three, the *Artevelde, Compiegne* and *Maid of Kent*, for the Dover—Continental services. Although built for different owners the vessels are very similar and typify the modern trend in design. Each has a bow rudder, embarks cars on the main deck, but also carries them on a mezzanine deck, to which access is obtained by ramps; each has a passenger certificate for 1,000 and can carry some 160 cars.

The *Maid of Kent* will be fitted with a lateral thrust unit and a Denny Brown stabiliser. She will have twin rudders and another innovation will be a power-operated turntable. An interesting ferry, which must be included under the heading of car ferries, although not primarily designed for the transport of motor cars, is the *Bardic Ferry*, 2,700 tons, which entered the Tilbury—Antwerp service last year. In addition to their car-carrying capabilities, double-ended ferries are noteworthy on account of the varied methods of propulsion employed. On the British Railways Isle of Wight service alone, can be found car ferries propelled by twin screws, cyclodal propellers and independent paddle wheels. The *Lymington*, 275 tons, which entered this service in 1938, was the first British passenger ferry to be fitted with Voith-Schneider cycloidal propellers and this type of propulsion is being adopted on new tonnage building.

With propellers fitted diagonally, one forward and the other aft, both controlled from a central position in the wheelhouse, this ferry can be propelled at all ranges of thrust from zero to full power in any desired direction, i.e. axially or laterally, and can be turned and swung with equal facility. Rudders are not required with this type of propulsion. The volume of rail and road traffic over water is continuously on the increase, this upward trend is not only noticeable in this country, but on all ferry services throughout Europe. The figures given below indicate the rapidity of this increase over a period of years.

TRAIN FERRY SERVICE
DOVER/DUNKIRK NIGHT FERRY AND CARGO SERVICES

Year	*Passengers*	*Rail cargo, tons*	*Cars (including trailers and caravans)*	*Motor coaches*	*Motor cycles*
1938	75,800	75,927	4,630	—	—
1948	107,858	147,984	10,612	—	—
1958	204,296	243,008	34,911	477	2,053

ACCOMPANIED CAR SERVICES
DOVER/BOULOGNE/CALAIS/OSTEND

1948 ..	43,170
1958 ..	202,863

Seasonal Traffic

Unfortunately both the rail and road traffic carried on these services is seasonal. On train ferries there are periods of the year when perishable goods in large quantities are imported and unless reciprocal traffic is offered the return of the empty rail wagons must be accepted. On car ferries the traffic is primarily a holiday one and in consequence most passengers travel during the summer months, particularly at weekends.

The following table shows the number of cars carried during each month of the year 1958.

		Percentage of annual total
January	1,909	0·8
February	1,098	0·6
March	3,178	1·7
April	7,876	3·9
May	12,639	6·2
June	27,635	13·7
July	41,494	20·6
August	56,128	27·7
September ..	34,548	17·0
October	9,981	5·0
November ..	3,073	1·6
December ..	3,607	1·8
Total	202,863	100·0

From these figures it will be noted that 27.7 per cent of the total cars were carried during the month of August and 78.4 per cent of the total during the four summer months June to September inclusive. A breakdown of the August total of 56,128 cars carried shows that 25,555 cars or 12.62 per cent of the annual total were carried on the Saturdays and Sundays of the five weekends in that month, i.e. in 10 days.

(*Continued on page* 18)

* Abstract of a paper presented to the Institution of Naval Architects.

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LANCASHIRE UNITED TRANSPORT

*Motor Buses in an Industrial Area (Cont.)**

HALF A CENTURY OF PROGRESS

NEW vehicles purchased in the 1932-35 period included a Dennis Lance and two Guy Arab double-deckers, also 10 Dennis Arrow and seven Dennis Lance single-deckers, these being the last with petrol engines and also the only non-Leyland buses purchased during 1927-42. The Tognarelli Tiger was fitted with a new Roe body and two chassis were purchased new. From then onwards the Titan TD4/5/7 double-deck types were purchased in batches of 10, 4, 4, 15, 7, 10, 3, 6 and 6, whilst Tiger TS7/8/11 single-deck types were acquired to the extent of 10, 22, 25, 24 and 20. Double-deck bodywork was mostly by Leyland, with 10 Weymann, whilst all the Tigers had Roe bodies except eight by Leyland and five by English Electric. The Roe vehicles included both buses and coaches. Six of these Tigers received new Plaxton bodies in 1953 and still survive, but all the rest are now scrapped.

The garage and works of the Lancashire United Transport Company at its Howe Bridge headquarters

Purchases

An Oldham—Manchester—Bolton—Blackpool coach service was operated by M. and H. Motors, Limited, which had been incorporated in December, 1926, by A. Meadows and H. Potts. This was purchased in January, 1935, jointly by the L.U.T., Ribble, and North Western. In March, 1938, the L.U.T. and Ribble jointly purchased the coach business of A. Christy (Bolton), Limited. By 1933 the Liverpool office of the L.U.T. had been moved to 26 Mount Pleasant, and the garage was now in Bentley Road. On November 24, 1937, a celebration dinner was given at Leigh to 55 employees with 30 years' service or more. In 1958 membership of the "30" Club had reached 225 employed (approximately 13 per cent of the payroll) and 52 retired. The total service of the 277 is almost 10,000 years and the average is 36 years. The L.U.T. claimed to have been the first bus company to give all its employees a holiday with pay and double time on Christmas Day.

When first registered back in 1905 the title of the company was the Lancashire United Tramways, Limited, but this was altered in 1926 to the Lancashire United Transport and Power Co., Limited, and again altered in 1948 to Lancashire United Transport, Limited.

The company was registered in 1905, the first capital issues being made in 1906 as follows:

	Authorised £	*Issued* £
Ordinary shares	200,000	192,878
5% prior lien debenture stock ..	300,000	250,000
2nd mortgage debenture stock ..	300,000	296,500
Deferred debenture stock ..	100,000	83,330

In 1926 £300,000 was authorised and £250,000 issued of 6 per cent first mortgage debenture stock in order to repay the 5 per cent prior lien debenture stock issued in 1906. This was repaid in 1933 by an issue of 5 per cent first mortgage debenture stock. In 1934 the authorised share capital was increased to £500,000 and £300,000 5½ per cent cum. preference stock was issued to replace the 2nd mortgage debenture stock issued in 1906. In 1935 the authorised share capital was increased by a further £100,000 to £600,000 and 83,330 ordinary

(*Continued on page* 15)

* Previous article appeared March 28.

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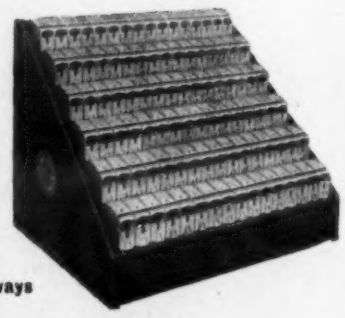

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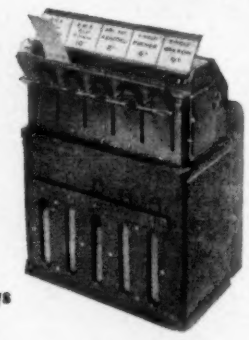

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shares of £1 each issued in cancellation of the deferred debenture stock. The capital in 1935 was:

	Authorised £	*Issued* £
Share Capital		
5½% cum. pref. shares	300,000	300,000
Ordinary shares	300,000	276,208
Loan capital		
5% first mortgage debenture stock	300,000	250,000

In 1944 the £1 preference shares and the £1 ordinary shares were converted to stock. The 5 per cent first mortgage debenture stock was finally redeemed in 1948, by repayment in cash.

At a series of class and general meetings held on February 6, 1959, various rights and privileges were altered by resolutions passed, amongst which were:

(1) The 5½ per cent cum. preference stock became non-voting stock and altered to 6 per cent cum. preference stock.
(2) The authorised capital was raised from £600,000 to £852,416.
(3) A one for one bonus issue was passed, raising the issued ordinary capital from £276,208 to £552,416.

The capital of the company from February 27, 1959, is:

	Authorised £	*Issued* £
6% cum. pref. stock	300,000	300,000
Ordinary stock	552,416	552,416
	£852,416	£852,416

The L.U.T. is one of the very few large bus companies in which none of the railway companies purchased a shareholding in 1928-30. It is also one of the few large ones to have grown to its present size almost entirely upon its own original development and without the help of any amalgamation or substantial absorptions, for although a few small businesses have been acquired, no large ones have.

Some L.U.T. vehicles in service: a Foden with Northern Counties body at Atherton (Punch Bowl); a Guy and an early Leyland Titan TD1 at Wigan; below, a Guy with Roe bodywork at Swinton Church, and, right, a Guy with Northern Counties body at Leigh bus station

Growth

The growth of the fleet during the past 40 years can be summarised by these figures of the total number of vehicles in service, excluding trams and trolleybuses: 1919, nil; 1924, nearly 100; 1929, 152; 1934, 176; 1939, 196; 1944, 300; 1949, 346; 1954, 408; and 1958, 435. The most rapid growth was during the 1939-45 war, when, despite the loss of Blackpool holiday traffic, industrial Lancashire was so busy on war work that the L.U.T. had to increase its fleet considerably in order to take all the workers to and from the factories. Of the Leyland Tigers and Titans already mentioned, some PS1 Tigers in 1946, followed by 10 Titans and nine Tigers in 1948 and 10 Tigers in 1949. From the Dennis stable there came 20 single-deckers and nine double-deckers in 1947, followed by five single-deckers and 10 double-deckers in 1950, whilst 1951 saw the arrival of five Foden double-deckers. A steady stream of 162 Guys has been received during 1948-58, in 18 different batches, and including both double- and single-deckers, the latter with both vertical and underfloor engines. The new Atkinson underfloor-engined bus chassis introduced in 1952 found a ready customer in the L.U.T., which has since purchased 40 in several batches, many having high-capacity standee bodies.

The most recent additions to the fleet have been six new N.C. bodies on wartime Guy double-deck chassis, two Weymann-bodied Leyland Tiger Cub buses, 14 and then another 10 Daimler C.V.G.5 double-deckers with Metropolitan-Cammell bodies, nine Guy Arabs with 64-seat N.C. bodies, 17 Arabs with 73-seat N.C. bodies, 10 Duple-bodied Tiger Cub coaches, 14 73-seat N.C. Guys and 14 Leylands with 73-seat Metropolitan-Cammell bodies. Now on order are 10 Daimler, 10 Guy and two Dennis double-deckers, in addition to which there will be five A.E.C. Reliance coaches with Burlingham bodies delivered this year. The total fleet at the end of 1958 was 435 vehicles (299 double-deck, 103 single-deck, and 33 coaches) which was based on 220 Guy, 107 Leyland, 39 Dennis, 24 Daimler, 40 Atkinson and five Foden chassis, of which all save the Leylands have Gardner engines. There are also 22 miscellaneous service cars, vans, and lorries.

Bodywork Varieties

Bodywork shows even greater variety than the chassis, for the 435 includes 12 makes: 157 Northern Counties, 10 Duple, two Willowbrook, 98 Roe, 56 Weymann, six Plaxton, 50 M.C.W., two East Lancs, one Samlesbury, five Massey, 42 Leyland, and six Strachan. Almost all the N.C. bodies are double-deckers, eight having rear folding doors and enclosed platforms. The Leylands are all double-deckers and two thirds of the single-deck fleet has Roe bodies.

The four most recent batches of double-deck bodywork have greatly improved layout of destination and route-number blinds, with three separate boxes at the front, including one for three lines of intermediate places. Their shape and size is the same as has been standardised for many years by Manchester Corporation, but hitherto the L.U.T. had shown only a very small number and destination, without any intermediate points. Livery of the fleet has always been red.

New services introduced in the last 18 months include No. 33, Walkden (Rydal Crescent) to Little Hulton (Kenyon Way), begun on July 1, 1957; No. 49, Lowton to Newchurch (January 27, 1958) and No. 34, Little Hulton (Kenyon Way) to Farnworth (King Street), which began on November 28, 1958. In August, 1958, a new through service was licensed to be worked jointly by L.U.T. and Bolton Corporation, replacing the previous separate services from Highfield Road, Farnworth, to Bolton Centre, and from Bolton Centre to Old Kiln Lane.

One of the nine Dennis Lance double-deckers delivered in 1947 with Gardner 6LW engine and M.C.W. 53-seat body

32 and 25 were delivered in 1940-42, many with wartime utility bodies.

Nearly 100 buses were hired from other operators during the war, including six Leyland Lions from Ribble in 1940-42, 13 Leyland Titans from Bolton Corporation in 1940-43, 14 Titans from Eastbourne Corporation in 1940-43, four Titans from Ribble in 1941-43, one Titan and 13 Crossley double-deckers from Manchester Corporation in 1942, six Titans from Oldham Corporation in 1942-43, three A.E.C. Regents from Eastbourne in 1942-44, and 13 Regents of General type from London Transport in 1943-44.

Fleet Additions

In addition, the Lancs United purchased 58 Guy Arab utility buses and four Daimlers during 1943-45, with bodywork by seven different firms. The first postwar purchases were Leylands, though subsequently a large fleet of Guys has been built up. There were 12 Leyland PD1 Titans and five

Special Works Services

An extremely high proportion of the L.U.T. activities is devoted to special workpeople's services, perhaps almost more than any other British bus operator. There are about 92 such services, running from all parts of the company's territory to some 44 different destinations, comprising 12 collieries and 32 factories, many of the latter having world-famous names. Some of these destina-

(*Continued on page* 18)

Lancashire United replace with

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For over 20 years Guy vehicles have been supplied to Lancashire United Traction who since 1942 have built up a fleet of modern Guy diesel buses. Reliability plus economy have proved their decision a wise one, and now L. U. T. have well over two hundred Guys—half their entire fleet! This example of satisfaction with Guy is repeated by transport operators throughout Great Britain. Where *economy*, reliability and long life are of prime importance Guy vehicles are matchless. Put Guy to work for you—you'll soon *prove* the benefits!

The Mark IV Arab, one of 14 new Guys delivered recently to Lancashire United Traction. It seats 73 and is powered by the Gardner 6LW engine.

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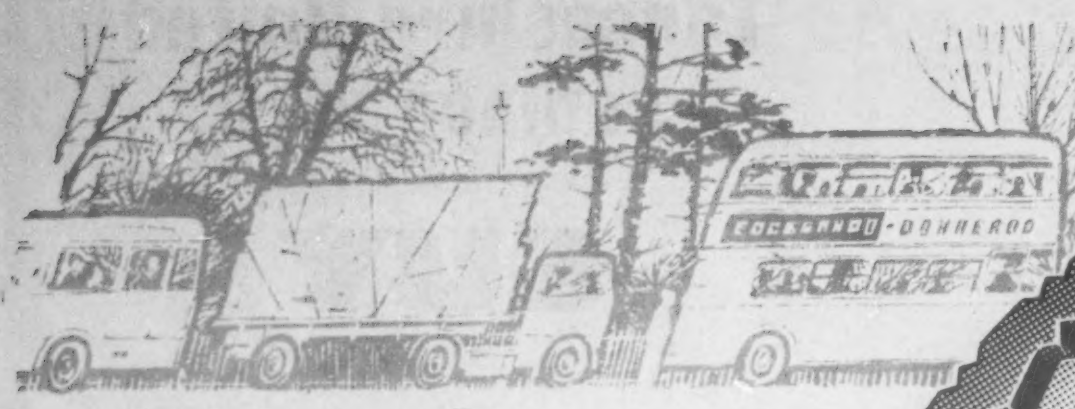

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JONES 20-TON MOBILE CRANES

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THE range of Jones mobile cranes manufactured at the Letchworth works of K. and L. Steelfounders and Engineers, Limited, has been extended to include three 20-ton models, a KL12-20M self-propelled unit, a KL 12-20L lorry-mounted crane and a KL12-20R rail bogie crane. Straight diesel-mechanical transmission system common to all Jones cranes has been retained on the grounds of its reliability and efficiency. The general arrangement of machinery on the slewing superstructure also follows the established Jones practice of unit construction. The individual crane motions are separate and self-contained, being mounted in a well-spaced arrangement that provides excellent accessibility for servicing and at the same time ensures a low overall height giving the driver an unusually wide field of vision. On

Jones KL12-20M mobile crane lifting a 20-ton test load on outriggers

British Standard ratings the crane lifts 20 tons with outriggers extended or 12 tons free on wheels, in both cases at 10 ft. radius. At 30 ft. radius the corresponding load ratings are 4 tons and 2½ tons. The standard tubular lattice jib is 30 ft. long.

The KL12-20M self-propelled mobile crane chassis is mounted on 14.00 in. by 24 in. heavy-duty pneumatic tyres fitted with the usual Jones restrictor wheels. Two-wheel drive is the standard arrangement but four-wheel drive is available as an alternative if required. The differential is provided with a locking arrangement to prevent wheelspin on greasy surfaces. For travelling duties there are four-wheel hydraulical brakes, air assisted; in addition a hand lever with mechanical linkage is provided for parking purposes. Steering is hydraulic, a double-acting ram being fitted to actuate the track rod. It is claimed to be possible to steer even when the crane is stationary.

On the KL12-20 cranes special winding gear is fitted which enables the outriggers to be wound in and out with very little effort and in very quick time. The operation of extending the outriggers and positioning the screw jacks is a matter of seconds. The chassis frame is an electrically welded structure built up from rolled steel joists and plates forming a strong box section at the centre. To meet the demand for higher travelling speeds, particularly in certain overseas markets, this crane has been designed to travel at 8 m.p.h., which is notable for cranes of this size and type. When carrying full load the maximum recommended travelling speed is 2 m.p.h. Unloaded, the crane will negotiate gradients up to 1 in 5 and the hydraulic brakes are designed to hold it in such conditions.

Slewing Superstructure

Slewing motion is fitted with reversing plate clutches. Hydraulic controls provide sensitive operation at speeds up to 2½ r.p.m. of the superstructure, and an automatic brake is fitted. Additionally a positive lock is provided to prevent accidental slewing when the crane is in transit.

The hoisting unit is located at the front of the superstructure, the grooved rope drum being driven by machine-cut spur gears from a heavy-duty plate clutch. The components are required to lift 20-ton loads at speeds up to 20 ft. per min.; if working on a single fall of rope the crane will lift 3½-ton loads at 120 ft. per min. A special gear is built into the hoisting unit which enables a load to be lowered under control of the engine, i.e. using the engine as a brake. By this means the lowering speed is strictly limited, being varied by using the engine accelerator, to a maximum of 45 ft. per min. with full load. Engine-controlled lowering is a valuable safety feature when handling heavy loads as it prevents the lowering speed reaching a dangerous level. If desired, this gear can easily be disconnected to give greater lowering speeds for handling light loads.

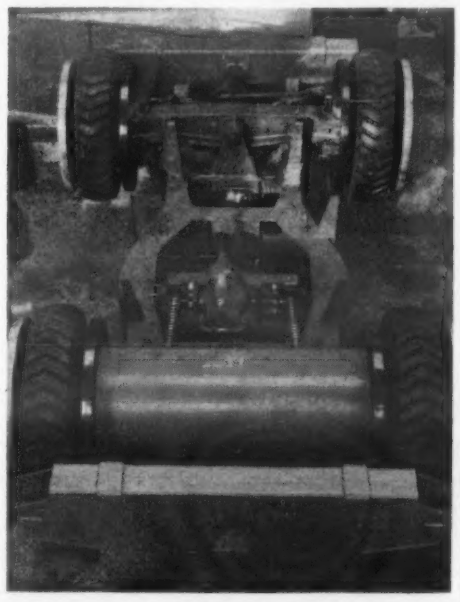
The aforementioned maximum load of 20 tons is lifted on a six-fall block at speeds up to 20 ft. a min., loads up to 7 tons can be handled on two falls at speeds up to 60 ft. a min. As a point of interest it is stated that a creep speed of as little as ¼ in. per min. has been achieved on trials. There is a sensitive two-shoe contracting-type hoist brake. Derricking up and down is under the control of reversing plate clutches operated by air pressure. Slewing, hoisting and derricking clutches are identical, which facilitates servicing when the need for this arises.

Power Unit

The standard power unit for this crane is the Perkins Four 270 D direct-injection diesel engine developing 62.5 b.h.p.; 12-volt electric starting equipment is fitted and cooling is thermostatically controlled. Power is transmitted through the medium of a 14-in. hydraulically controlled Borg and Beck clutch and a four-speed gearbox, thence via a multi-strand chain drive, running on ball bearings in a totally enclosed oil-bath gearcase, to the various crane motions.

Controls are conveniently arranged in the cab, the hand controls in regular use being located in a control desk in front of the driver. In the middle of this desk is an instrument panel housing the engine starting controls, electric lighting and trafficator switches, and also the warning lights for a safe load indicator. There are only three pedals, as in standard vehicle practice, for engine clutch, travelling brake and engine accelerator.

The standard jib is of tubular steel, straight lattice construction, 30 ft. in length, in two sections. By the insertion of 20-ft. intermediate



The massive electrically-welded chassis frame has a central box section

sections the length can be extended to 50 ft., 70 ft. or 90 ft., as required. Whilst these lengths of jib are standardised, other lengths of jib and special types, e.g. swan-neck jibs, fly jibs, etc., are offered to meet special requirements. The jib may be fitted with flashing warning lights as a safety measure when working in congested areas with blind spots. The weight of the standard KL12-20M model with 30-ft. jib is 26 tons.

Lorry-Mounted Crane

The lorry-mounted crane, KL12-20L, incorporates the KL12-20 slewing superstructure, this being mounted on a modified Foden six-wheeled crane carrier chassis. This chassis is powered by the Gardner 6LX 150-b.h.p. oil engine and is equipped with a five-speed gearbox; it is capable of road speeds up to 20 m.p.h. Weight in working order is 31¾ tons and performance (except as to speed) is similar to that of the KL12-20M model, except that maximum permitted load free on wheels is 10 tons.

The standard railway model is designed for 4 ft. 8½ in. or alternative gauges. The rail carriage is mounted on eight wheels in two bogies, all wheels driven, and the crane will traverse curves down to 80-ft. radius. The bogies are spring mounted, with spring locks for lifting duties. Brakes are fitted on all four axles, actuated from the driver's cab.

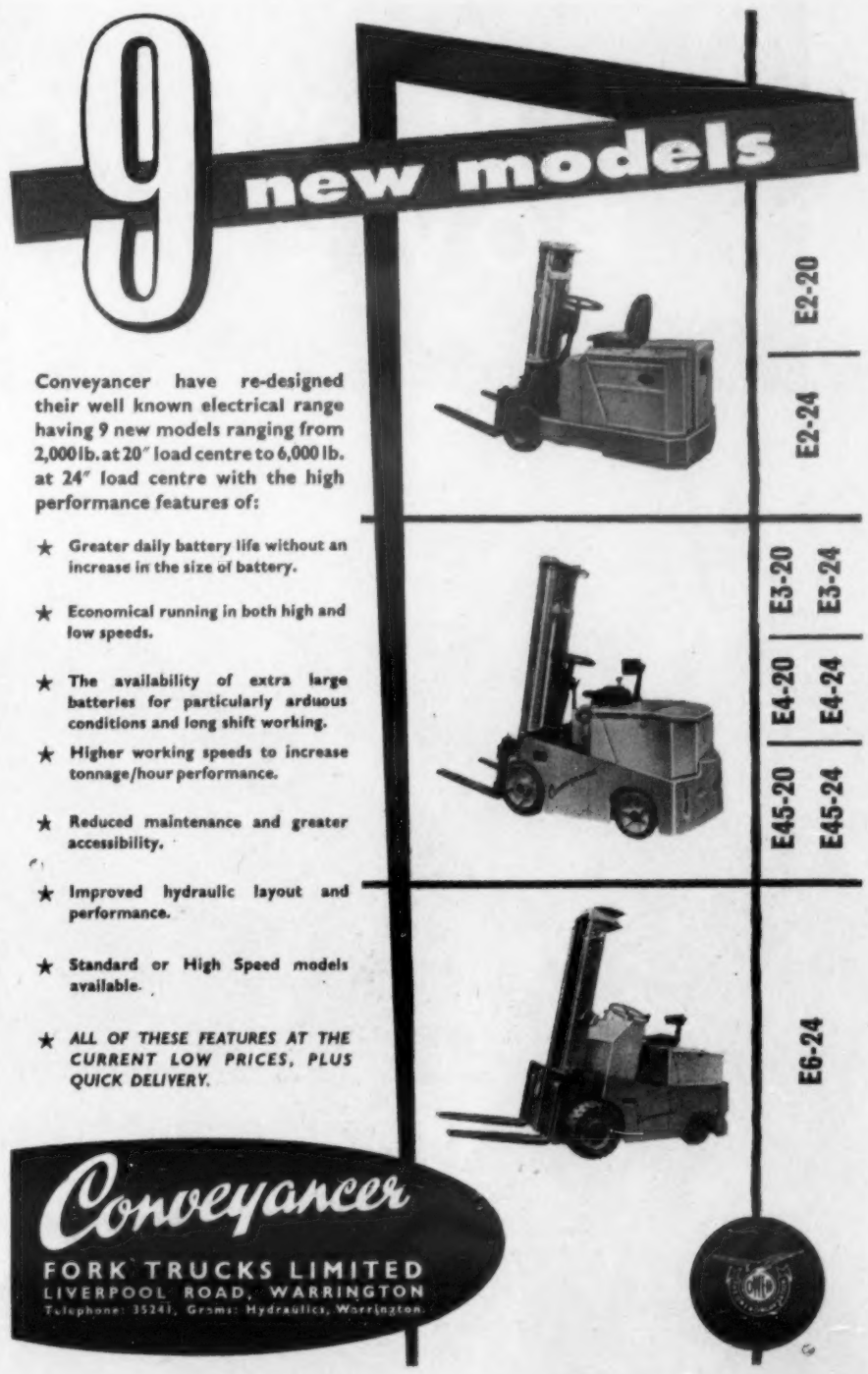
The London office of Rocol, Limited, is now at General Buildings, Aldwych, London, W.C.2 (telephone Holborn 1985 (two lines)).

B.T.C. TRAFFIC RECEIPTS : PERIOD NO. 3—1959

	Four weeks to March 22, 1959			Aggregate for 12 weeks		
	1959 (£ thousands)	1958	+ or —	1959 (£ thousands)	1958	+ or —
PASSENGERS						
British Railways	8,839	8,666	+ 173	25,448	25,172	+ 276
London Transport						
Railways	1,827	1,826	+ 1	5,477	5,449	+ 28
Road Services	4,138	4,435	— 297	11,926	13,188	— 1,262
Provincial and Scottish Buses	4,093	4,073	+ 20	12,020	12,103	— 83
Ships	226	207	+ 21	694	624	+ 70
Total Passengers	19,123	19,207	— 84	55,565	56,536	— 971
FREIGHT, PARCELS AND MAILS						
British Railways						
Merchandise and livestock	7,805	8,598	— 793	22,698	25,505	— 2,807
Minerals	3,496	3,934	— 438	10,486	11,861	— 1,375
Coal and coke	9,743	10,641	— 898	29,946	32,333	— 2,387
Parcels, etc., by passenger train ...	4,169	4,120	+ 49	11,845	11,796	+ 49
Total Freight British Railways	25,213	27,293	— 2,080	74,975	81,495	— 6,520
Others	4,197	4,204	— 7	12,019	12,185	— 166
Total Freight, Parcels and Mails	29,410	31,497	— 2,087	86,994	93,680	— 6,686
Aggregate	48,533	50,704	— 2,171	142,559	150,216	— 7,657

Comparisons are affected by increases in fares and rates which have been authorised from time to time

THE SILENT SENTINEL
ON GUARD...
NIGHT & DAY
The railway signals you instal this year will still be working for you in 20 or even 30 years' time, safeguarding the trains and those who travel in them, without cessation.
In all weathers they do their vitally important job, often in smoke laden conditions, and always subject to constant heavy vibration—yet their reliability must never for a single moment be in doubt.
With so much at stake, how right you are, how wise you are, to rely on...
S.G.E. SIGNALS AND ROUTE INDICATORS
SGE
SIEMENS AND GENERAL ELECTRIC RAILWAY SIGNAL CO. LTD
EAST LANE · WEMBLEY · MIDDLESEX · ENGLAND


9 new models
Conveyancer have re-designed their well known electrical range having 9 new models ranging from 2,000 lb. at 20" load centre to 6,000 lb. at 24" load centre with the high performance features of:
★ Greater daily battery life without an increase in the size of battery.
★ Economical running in both high and low speeds.
★ The availability of extra large batteries for particularly arduous conditions and long shift working.
★ Higher working speeds to increase tonnage/hour performance.
★ Reduced maintenance and greater accessibility.
★ Improved hydraulic layout and performance.
★ Standard or High Speed models available.
★ ALL OF THESE FEATURES AT THE CURRENT LOW PRICES, PLUS QUICK DELIVERY.
E2-20
E2-24
E3-20
E3-24
E4-20
E4-24
E45-20
E45-24
E6-24
Conveyancer
FORK TRUCKS LIMITED
LIVERPOOL ROAD, WARRINGTON
Telephone: 35241, Grams: Hydraulics, Warrington

BOOK NOTICE

Economics and History

AN ECONOMIC HISTORY OF TRANSPORT. By Christopher I. Savage, M.Com. (London: Hutchinson and Co. (Publishers), Limited, 178-202 Great Portland Street, W.1. Price 18s.) Readers familiar with the interesting and illuminating volume on *Inland Transport* in the English History of the Second World War (MODERN TRANSPORT, February 23, 1957) by Christopher I. Savage, who is lecturer in political economy in the University of St. Andrews, and expecting in this work equally comprehensive lucidity and erudition, will not be disappointed. Both rail and road transport have previously been dealt with from the historic and economic angles, but this is one of the first all-embracing volumes covering the economic development of roads, railways and inland waterways in Great Britain up till the outbreak of war in 1939, and dealing also with the various aspects of transport thereon, including rates and charges.

There was a close affinity between the problems and difficulties faced by early canal projects in the second half of the 18th century and those confronting railway undertakings in the first half of the 19th century and after. States Mr. Savage:

> Canals were opposed from many quarters: by the less enlightened landowners, who feared that their estates would be ruined; by mill owners; by turnpike trustees; by existing river navigations; by the coasting trade, which failed to understand the complementary function of canals, and by vested interests generally. Farmers, innkeepers and others opposed canals for fear of losing their monopoly; so did villagers, who disliked the movement of gangs of rough navvies through the countryside.

The high capitalisation of the British railway system resulted, in the main, from high Parliamentary and legal costs and other expenses incurred in placating opponents. Moreover, Britain as the pioneer had to make the experiments and mistakes in railway development from which other countries later profited, causing a good deal of capital to be sunk in ways that could, in later times, have been avoided. The author reminds us that British railway capital a route-mile amounted to £54,152 in the United Kingdom and £64,453 in England and Wales, compared with £21,000 a mile in Prussia and less than £13,000 in America.

Quasi-Monopoly

As a quasi-monopoly the railways had to submit to drastic restrictions on charging, and efforts to secure working agreements between neighbouring companies, let alone amalgamations, were largely frustrated. The inequity and facts of the situation were revealed in 1911 in the report and minutes of evidence of the well-known Departmental Committee on Railway Agreements and Amalgamations under the chairmanship of Mr. Russell Rea, M.P., a document which was conveniently shelved. But in 1913 a Royal Commission was appointed, with Lord Loreburn as chairman, to examine yet again the relationship between the State and the railways, though the efforts expended in preparing evidence proved abortive, because the outbreak of war in the following August terminated its proceedings.

The year 1919 saw the beginnings of the Ministry of Transport and, four years later, the grouping of the railways, followed by the stirring developments and legislative changes and controls of the interwar years. During that period transport, which had begun with the roads in the days of the Romans, passed to the canals in the 1750s and began to favour the railways in the 1830s, came full cycle with the rapid development of road competition with the legally restricted railways, leading to the "Square Deal" campaign for principles which have been embodied in recent legislation.

All this, and much else, is described by Mr. Savage, whose work concludes with a most informative outline of transport history in the United States—he was for some months a visiting assistant professor of economics at Union College, Schenectady; from this factual compendium useful conclusions can be drawn. Especially valuable to the student wishing to engage in further research will be the author's copious bibliography, to which he makes frequent and meticulous reference; the index is suitably comprehensive. This serviceable and authoritative work should be particularly welcome to the Institute of Transport, which is ever on the lookout for good textbooks in the development of its examination scheme.

Incidentally, it is interesting to note that some early canal carriers developed quite a flourishing passenger business, notably on the Duke of Bridgewater's undertakings. We are grateful for this reminder because it has evoked recollection of a pleasant childhood trip behind a galloping horse on the brightly caparisoned packet of the Bridgewater Canal from Manchester to Runcorn, survival of the earlier service of flyboats for passengers.

★

TRAIN AND CAR FERRIES

(*Continued from page 13*)

It is perhaps of interest to note that the ratio of passengers to cars is 3.5 to 1. One result of the marked seasonal nature of this traffic is that crews have to be arranged on a roster basis as this class of ship operating a short sea route is not manned for continuous watch-keeping. Some vessels make 16 crossings per weekend during the traffic peak.

The maximum freight load of a train or car ferry will represent only some 25 per cent of the bale capacity of the deck on which it is carried. A considerable sacrifice in carrying capacity has thus to be accepted in the operation of roll-on, roll-off traffic; this, however, is offset by elimination of charges for shed space, cranage and handling at ports; protective packaging can be reduced, maybe even dispensed with, time in transit is reduced, goods are not liable to damage through careless handling or by being left unattended on open quays, and perishable goods can be maintained in condition by carrying them in specially designed or adapted wagons.

Even with all these advantages, however, if the service is to be operated economically the ferries must maintain the most frequent service possible, a point of paramount importance when considering the design of these vessels. The frequency of service is of particular importance in the case of car ferry services where wide seasonal fluctuations of traffic occur and it would be uneconomical to operate additional vessels solely for the peaks.

A.E.C. Engine Reconditioning

(*Continued from page 3*)

which bore both the small and the big end bearings in one operation, thus ensuring correct centres and parallelism. A large number of connecting rods is handled in this section, supplying the needs not only of the engine rebuilding programme but also providing for spares requirements.

Fuel injection equipment is housed in a spacious well-lit separate shop within the main workshop, with an aluminium-panelled ceiling which reflects as much light as possible. The equipment includes Hartridge fuel pump test machines and Merlin Servicemasters for use on injector work. A separate stripping and cleaning bay is installed with the object of maintaining scrupulous cleanliness.

The material stores is incorporated in the layout, from which new material is issued to the adjoining marshalling stores, the function of which has already been described. Specially designed mobile racks are used and on these are placed all parts required (except crankcase and crankshaft) to form a complete kit, which is then passed to the appropriate position in the engine main assembly line, the kit racks being moved by pallet truck.

Assembly

Engine main assembly is effected on special stands manufactured by the A.E.C. works engineer's department, each one being adjustable longitudinally to accommodate the varying types of engine handled. Above this line is an overhead runway with power-operated hoists and the arrangement of the runway is such that engines may be removed when completed, so causing the minimum amount of interference

The engines are then loaded on to an electric truck for transport to the test house, where a full test is carried out equivalent to that given by A.E.C. to new production. Performance is checked by Heenan and Froude dynamometers. After testing engines are returned to the main shop for a final check over and are then spray painted.

The scheme works by an operator placing an order with a depot, or direct with Southall service department, for an exchange engine, quoting type. He also indicates the latest date the unit is required and whether it is to be delivered or collected or whether he is sending in the vehicle for rebuilt engine to be fitted. The exchange engine is supplied complete with fuel pump and injectors, but less dynamo, starter, exhaust manifold, flywheel and clutch. Some operators prefer carrying out their own fuel pump overhauling, in which case order should state "less pump," and an allowance will be made against the basic figure.

SAMPLE COSTS

	£
AV410 and AV470 engines with exhauster ..	205
AV410 and AV470 engines with compressor ..	215
AH410 and AH470 engines with exhauster ..	205
AH410 and AH470 engines with compressor ..	215
7.7-litre engines	260
9.6-litre engines with standard fuel injection pump	250
9.6-litre engines with hydraulic-governed fuel injection pump	275
11.3-litre engines with standard pump	260
11.3-litre engines with hydraulic-governed pump..	285

There are no additional charges, except in the unlikely event of a new crankcase, cylinder block or crankshaft being required. Should there be any missing parts as from the specification of an exchange unit, then replacement will, of course, be charged for. No oversize bores and pistons are fitted. The exchange unit always has new liners, new pistons with rings, new main and new big-end bearings incorporated; the crankshaft is reground. It is given a bench test equivalent to that undergone by factory produced new units. A 12-month guarantee is given with the exchange engine. The advantages of the scheme to the operator are that he has:

(*a*) A vehicle back on service with a minimum amount of delay.
(*b*) Saving in valuation of spare parts to be carried for engine overhauling;
(*c*) Saving of capital expenditure for specialised machinery and equipment;
(*d*) Saving in valuation of spare engines to be carried; and
(*e*) Reconditioned engines incorporate latest improved design features.

In addition a substantial saving of overhead costs in workshop establishment can be effected. It is of interest that as far as records show the average engine that comes in has covered 200,000 to 250,000 miles. Among record holders must be the 7.75-litre 470-type engines of the S.M.T. group, some of which have run over 300,000 miles between major overhauls.

★

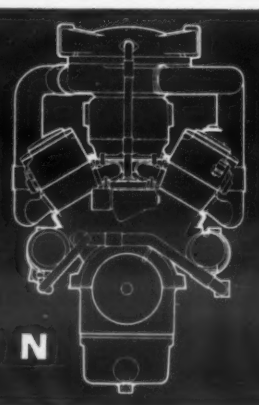
L.U.T. BUSES

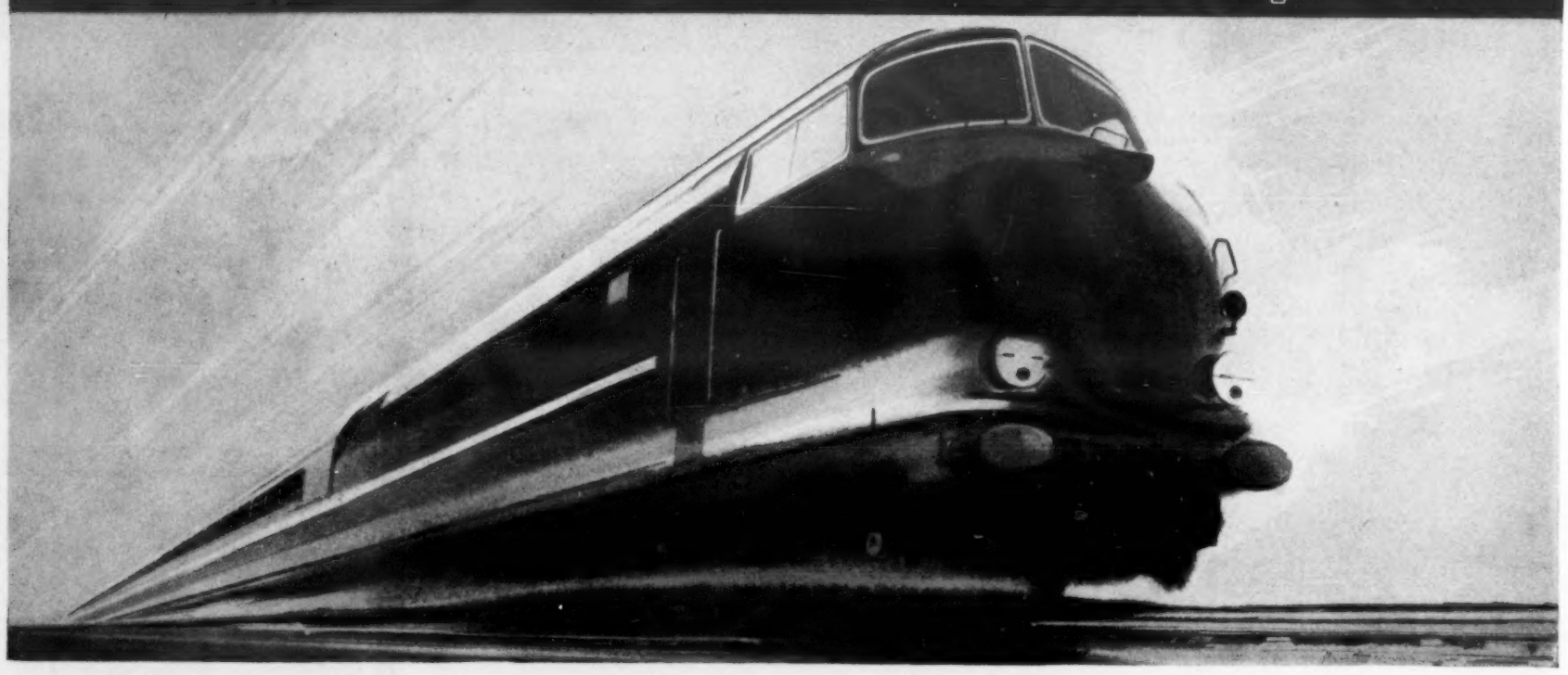
(*Continued from page 15*)

tions, notably at Burtonwood, Golborne, Mosley Common, Plank Lane, Risley and Sankey, require quite a large fleet of buses, whilst Trafford Park alone needs more than 50. Heavy industrial traffic is, of course, also experienced on the 76 ordinary services, though fortunately the various early shifts and late shifts give a little—though not enough—smoothing-out of what would otherwise be an extremely difficult peak period.

Excursions and tours are operated to over 100 destinations, but coaching does not form such a high percentage of the company's total activities as it does with most other large bus companies. The regular long-distance services from Manchester to Liverpool and Blackpool are worked with double-deck vehicles, for which purpose many of the Guy Arabs have Northern Counties bodies whose standard of comfort is well above average and is enhanced by a patent ventilating system. Bus fares are still remarkably low by the standards of the south of England, and not until August 5, 1951, when the penny fare was raised to 1½d., did any major increase occur in the original scale dating from 1902. There were further increases in August, 1952, and subsequently. The T.I.M. ticket machine is normally used, and conductors have to be familiar with the fares structure of many other operators as well as their own. Today the L.U.T. employs 1,227 traffic staff, 368 maintenance staff, 85 clerical and 39 miscellaneous. Relations between the company and employees have always been good; the Atherton social club began as long ago as 1906.

MAYBACH POWER
COMES TO BRITAIN





Armstrong Siddeley are now manufacturing under licence a range of diesel engines from 220 to 2,000 b.h.p. rail traction rating developed by the world famous German firm of Maybach, who have had 35 years experience in the manufacture of diesel traction units. Armstrong Siddeley Maybach diesel engines are currently being introduced into British Railways Western Region as part of their modernisation programme.

ARMSTRONG SIDDELEY Maybach DIESEL ENGINES

ARMSTRONG SIDDELEY MOTORS | COVENTRY · ENGLAND | MEMBER OF HAWKER SIDDELEY GROUP
ENGINE BUILDERS TO THE WORLD

SOCIAL AND PERSONAL

M.o.T. Appointments

MR. B. P. H. DICKINSON has been promoted to Under Secretary in the Ministry of Transport and has taken over the shipping operation ports and planning group from Mr. W. Graham. The latter retired on March 31 and is taking up an appointment with the Inter-governmental Maritime Consultative Organisation. Mr. C. P. Scott-Malden has been promoted to Under Secretary and has taken over the road transport and international inland transport group from Mr. J. E. Hampson, whose promotion to Deputy Secretary (Inland Transport) was recently announced.

* * *

We greatly regret to record the death of Mr. G. O. Waters, O.B.E., former chairman and managing director of Air Terminals, Limited, the company formed to operate the West London Air Terminal. Mr. Waters, who was 54, had relinquished that post in April, 1958, on medical advice after a prolonged period of ill-health. He commenced his career in civil aviation by joining Imperial Airways in 1929 after extensive experience in shipping. He was the first station superintendent of Croydon Airport, until 1934, when he became commercial assistant to Railway Air Services, in the formation of which he played an active part. After leaving Railway Air Services in 1938, he took up the appointment of general manager of Channel Island Airways, Jersey Airways, Limited, and Guernsey Airways, Limited, in 1939. During the war, Mr. Waters served with the Fleet Air Arm and became Deputy Superintendent of the R. N. aircraft repair yard at Donibristle, in Fifeshire, with the rank of Commander R.N.V.R. and also had a spell of service in 1943 as Air Transport Adviser to the Fifth Sea Lord of the Admiralty. He was released from the Navy in order to prepare for the revival of C.I. Airways in time for the rehabilitation of the islands; three days after their liberation Rapides of C.I. Airways reappeared loaded with necessities for the islanders. For these services Cdr. Waters received the O.B.E. and he became managing director of the three airways companies referred to above. When the services between England and the Channel Islands were taken over by British European Airways in 1947, Mr. Waters, who had joined B.E.A. on its formation the previous August as manager of its English Division, became in turn, manager British Division, general manager, British Services, and finally traffic director. He was appointed chairman and managing director of Air Terminals, Limited, in August, 1955.

Mr. G. O. Waters

* * *

Mr. Roger Thornycroft, D.S.C., director and general manager of Transport Equipment (Thornycroft), Limited, has just returned from a tour of East Africa where he visited various Thornycroft distributors and operators.

* * *

Mr. H. W. T. Young, recently appointed district traffic superintendent, Chester, London Midland Region, B.R., began his railway career as a passenger and goods clerk on the L.M.S.R. at Govilon in South Wales in 1923. After experience in district traffic superintendent's and control offices, Mr. Young was appointed district signalmen's inspector, Westhouses, in 1933. He followed this with appointments as yardmaster and district inspector and in 1941 was made assistant district controller, Birmingham (Saltley). He remained in that post until 1945 when he was appointed yardmaster, Leeds. In 1948 he became assistant to the district operating manager, Rugby, and one year later assistant to the district operating superintendent, Crewe. In 1955 he was made assistant district traffic superintendent, Chester, to become district operating superintendent, Crewe, towards the end of 1957.

Mr. H. W. T. Young

* * *

In the course of the series of visits marking the golden jubilee of the Railway Students Association it was announced by the president, Mr. A. B. B. Valentine, that Mr. H. C. Johnson, general manager, Eastern Region, has accepted an invitation to succeed him.

* * *

On April 3 Mr. V. R. Prehn and Mr. E. R. Jones, deputy managing director and assistant managing director respectively of Ruston and Hornsby, Limited, left the U.K. for a business tour of Canada. While in the Dominion Mr. Prehn and Mr. Jones will visit Vancouver where a new branch of the company will be opened. Visits will also be made to Montreal, Toronto, Calgary and Winnipeg.

* * *

Mr. W. W. Maxwell, M.A.(Cantab.), A.M.I.E.E., A.M.I.Mech.E., A.M.I.Loco.E., has been appointed a principal executive assistant of London Transport, with the title of divisional engineer "B," in the department of the chief mechanical engineer (railways) with effect from February 23. He is responsible for the railway rolling stock on the Northern and Central Lines and for the preparation of new rolling stock for service. Mr. Maxwell entered the chief mechanical engineer's department in 1947 as an engineering trainee.

Mr. S. L. Potter, commercial manager of the Dunlop Rim and Wheel Co., Limited, for the past two years, has been appointed sales manager of the Dunlop agricultural and industrial division at Fort Dunlop.

* * *

Six newcomers make up the number of teams entering the P.S.V. Undertakings Cricket Competition for the Wakefield Shield to 35 for this year. They are Stockport, Burton-on-Trent, Cardiff, Rotherham, West Hartlepool and Northern General.

* * *

On April 21 at 6.30 p.m., Sir John Elliot, chairman of London Transport, is to give a lecture, "Transport and Retailing—Problems of Today and Tomorrow," at the L.C.C. College for the Distributive Trades, Charing Cross Road, London, W.C.1.

* * *

Mr. E. R. L. Fitzpayne, general manager, Glasgow Corporation Transport Department, has accepted an invitation to go to Ghana shortly to advise the authorities there on transport matters. It is expected that he will be in Ghana for about 10 days.

* * *

Changes on the board of the Regent Oil Co., Limited, are announced. Mr. J. D. Garst, formerly operations director, and Mr. J. A. J. Nicholas, formerly sales director, have been appointed managing directors. Mr. A. B. Mumford has been appointed general manager, marketing.

* * *

Mr. W. M. Frizell has been appointed home replacement manager of Pirelli, Limited. This new post is under the direct control of the chief executive, tyre sales, Mr. H. A. Parson, and the new department will function from Pirelli House, London. All divisional sales managers will be responsible to Mr. Frizell.

* * *

Mr. M. G. Connell, M.S.M.A., has been appointed accessory sales manager, Wingard, Limited, with effect from April 1. He succeeds Mr. F. W. Watts, who has been promoted to other duties. Mr. Connell was previously with the Minnesota Mining and Manufacturing Co., Limited, and Black and Decker, Limited.

* * *

The papers to be presented at the annual conference to be held in September in Edinburgh of the Municipal Passenger Transport Association will be "The Future of Municipal Transport," by Councillor W. Alker of Bury and "A Review of the Pros and Cons of Bonus Incentive Schemes for Traffic Staff," by Mr. R. Cox of Rochdale.

* * *

Mr. A. Thomson, sales manager, tyre replacement division of the Goodyear Tyre and Rubber Co. (Great Britain), Limited, recently completed 30 years' service with the company. At a celebration dinner specially held in Mr. Thomson's honour, the managing director of the company, Mr. M. S. Meyer, decorated him with the 30 years' service pin. Mr. Thomson has held the above post since October, 1957.

* * *

To gain first-hand experience of an airline's day to day operational procedure, Mr. James Hay, Joint Parliamentary Secretary, Ministry of Transport and Civil Aviation, has spent two days with British European Airways' training staff and aircrews at London Airport. After a visit to the B.E.A. training unit. Mr. Hay later flew on a scheduled flight to Zurich and back in the flight cabin of a Viscount air liner.

* * *

Following the reorganisation of the Fairey Aviation Co., Limited, into a holding company and subsidiaries, the name of the Fairey Aviation Co., Limited, has been changed to the Fairey Co., Limited, but this does not alter the constitution of the board which continues to have Mr. G. W. Hall as chairman and managing director and Mr. R. Fairey as vice-chairman. Mr. C. H. Chichester Smith is chairman of Fairey Aviation, Limited, and of Fairey Engineering, Limited.

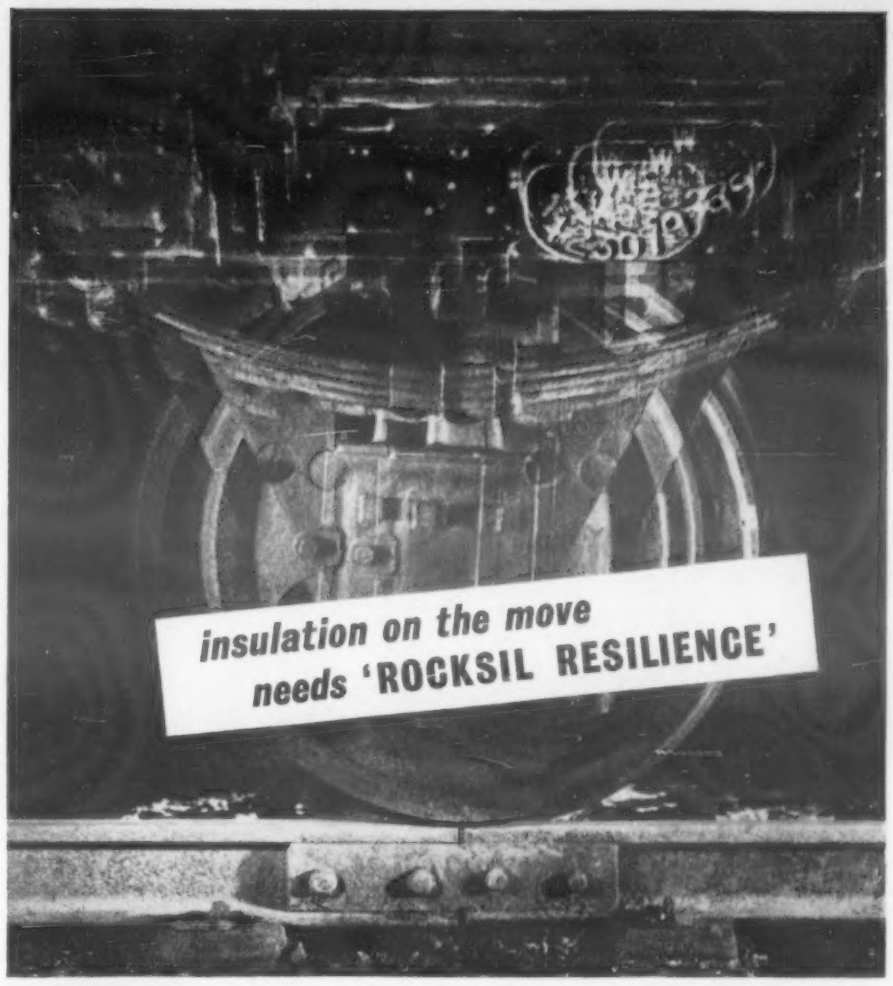
* * *

Mr. J. F. Bickerton, B.Eng.(Liverpool), M.I.C.E., has been appointed district engineer, Newport, Western Region, B.R. Educated at Oswestry High School and Liverpool University, he began his railway career as a pupil to the chief engineer of the Cheshire Lines Committee under whom he was subsequently appointed assistant engineer. In 1927-28 he was engaged on waterworks construction in Buenos Aires as resident engineer and in 1928-30 was appointed superintendent engineer on constructional works in Spain. Joining the Great Western Railway in 1930 as an assistant in the new works section of the chief engineer's department, he became assistant resident engineer and later resident engineer, first on the reconstruction of Temple Meads Station and other related work at Bristol, and later on a number of contracts for construction works, including the remodelling of Hockley Goods Station, Birmingham, and the locomotive depot at Severn Tunnel Junction. Wartime improvement schemes in which Mr. Bickerton was engaged included the widening of lines between Newbury and Winchester and from Savernake to Andover. He was appointed assistant district engineer, Paddington, in 1949 and moved to Cardiff as district engineer in 1953, which post he now vacates in taking up his new appointment. In 1955 he was the civil engineering member of a British Railways team which went to Ceylon to advise on the working of the Ceylon Government Railway.

Mr. J. F. Bickerton

* * *

To commemorate to the day the centenary of the opening of Brunel's famous Royal Albert Bridge at Saltash, on May 2, the Railway Correspondence and Travel Society is organising a special train, The Brunel Centenarian. Participants will, on arrival at Saltash, have the choice of then joining a Plymouth district rail tour, or of sightseeing in Saltash and Plymouth. Former G.W.R. Castle class locomotive No. 5069, *Isambard Kingdom Brunel*, will haul the special train from Paddington, departing at 8.35 a.m., and the Plymouth district tour train will depart Saltash at 1.47 p.m. The return journey to London will commence from Plymouth North Road at 5.45 p.m. The official celebration under the auspices of the Borough of Saltash, the City of Plymouth and the Western Region, takes place on May 1.



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Birmingham: 11 Waterloo Street, Birmingham 2 Midland 6565-6-7
Newcastle: 19 & 20 Exchange Buildings, Newcastle Newcastle 20488

TA 1782

OFFICIAL NOTICES

THE NIGERIAN RAILWAY CORPORATION

MOTIVE POWER OFFICER

ASSISTANT ELECTRICAL ENGINEER

THE Nigerian Railway Corporation invites applications for the following posts:

(*a*) Motive Power Officer
(*b*) Assistant Electrical Engineer

QUALIFICATIONS AND DUTIES.—Post (*a*) candidates must have served an apprenticeship, graduateship or diploma course or pupilage with a railway company or locomotive manufacturers, with subsequent experience on a railway. Candidates should have had extensive experience in both utilisation and repair of locomotives and must have five years' experience in motive power organisation in the locomotive running section of a railway with knowledge of machine and repair shop methods and be capable of controlling staff and labour. Experience in diesel maintenance and utilisation an advantage. Candidates must possess A.M.I.Mech.E. or A.M.I.E.E. or be graduates thereof. They would be responsible for assisting in the supervision of locomotive utilisation, failure, water and coal supplies, lubrication and the employment of enginemen. Post (*b*) candidates should have experience of planning, construction and commissioning of (*a*) small diesel-engined power stations, (*b*) high tension and low tension distribution schemes with both overhead and underground systems, (*c*) workshop lighting and power schemes, (*d*) conduit wiring systems, (*e*) railway yard floodlighting schemes. A knowledge of water supply systems would be an advantage. They should preferably be Associate Members of the Institution of Electrical Engineers or possess a degree recognised as granting exemption from Parts I and II of the Institution of Electrical Engineers examination and have five years' suitable experience. The officer will be required to take charge of minor capital works projects on the railway, responsible to the Electrical Engineer.

SALARY.—In scale £1,000 x £50 per annum to £1,900 per annum (inclusive of overseas pay). Starting salary according to qualifications and experience. Appointments to post (*a*) may be on pensionable terms or on contract with gratuity. Appointments to post (*b*) will be on contract with gratuity only. In both cases of contract appointments the gratuity payable on completion will be at the rate of £18 6s. 8d. to £31 13s. 4d. for each completed month of service.

TOURS.—15 months in Nigeria followed by 15 weeks' leave on full pay.

QUARTERS.—Partly furnished quarters are provided at low rental.

ALLOWANCES.—There are attractive family, travelling, transport and other allowances.

Send postcard before April 27, 1959, mentioning the post and this paper for further particulars and application form to:

The London Representative,
Nigerian Railway Corporation,
Nigeria House,
9 Northumberland Avenue,
London, W.C.2.

THE MAIDSTONE AND DISTRICT MOTOR SERVICES LIMITED

ASSISTANT SECRETARY

APPLICATIONS are invited for the post of Assistant Secretary to The Maidstone and District Motor Services Limited, operating some 800 buses and trolley vehicles in Kent and East Sussex.

Preference will be given to qualified accountants with a practical knowledge of secretarial matters and an ability to control staff. Experience of taxation would be an advantage.

Salary would be dependent on qualifications and experience.

Applications (which should be under "private" cover) giving details as to age, education, qualifications and experience, should be addressed to the General Manager, The Maidstone and District Motor Services Limited, Knightrider House, Knightrider Street, Maidstone, Kent, and reach him not later than first post on Saturday, April 25, and should be marked "Assistant Secretary."

[Another Official Notice appears on page 12]

IMPORTANT CONTRACTS

B.R.S. Increases A.E.C. Fleet

HIGH power output of the AV470 diesel engines, making them suitable for operation on high-speed motor roads, is a feature of a substantial number of A.E.C. Mercury Mark II vehicles to be added to the British Road Services fleet. The latest order placed with A.C.V., Limited, is for a total of 193 Mercury vehicles. Of these, 128 will be short-wheelbase articulated tractors for 10-ton capacity semi-trailers and 65 will be normal load carriers for 14 tons gross weight.

South Wales Docks Contracts

Contracts recently placed by the British Transport Commission (South Wales Docks) include the following:

The Fairfield Shipbuilding and Engineering Co., Limited, for steelwork for reconstruction of West Mendalgief Bridge, Newport Docks.

Aberdare Cables, Limited, for cable and link boxes for A and B Shed Wharves, King's Dock, Swansea.

E. Taylor and Sons (Manchester), Limited, for three 3-ton Jumbo cranes for Swansea Docks.

Dredger for Kings Lynn Docks

British Transport Docks has placed an order with Richard Dunston, Limited, Thorne, for a diesel single-grab dredger for service at Kings Lynn Docks, situated on the east bank of the River Great Ouse. The vessel, which has been specially designed to combat the increasing siltation at the port, has length BP of 130 ft., breadth moulded of 32 ft., depth moulded of 10 ft. 9 in., a hopper capacity of 350 cu. yd. and a speed of about 10 knots.

Army to Get Vickers Tractors

Vickers-Armstrongs (Tractors), Limited, announces that the Army has chosen the Vickers Vigor for use by the Royal Engineers after extensive trials. An order by the Ministry of Supply is one of the biggest placed for tracked earth-moving equipment since the war and includes 60 Vickers Vigor tractors and associated equipment to a value approaching £750,000. The Vigor tractor is powered by a Rolls-Royce diesel engine and is already in extensive use in most parts of the world.

New London Midland Contracts

The following are among the contracts announced by British Railways (London Midland Region):

Butterley Co., Limited, Butterley Ironworks, Nr. Derby, for supply, fabrication, delivery and erection of steelwork for bridges over Randolph Street, Camden Town, N.W.1, and Caledonian Road, N.1.

Leonard Fairclough, Adlington, Lancs, for construction of footbridge and liftshafts at Sandbach Station, and for renewal of roof covering, extension to central carriage shed, Birkenhead.

Norwest Construction Co., Limited, for new forwarded shed and auxiliary buildings, Huskisson Goods Depot, Liverpool.

Tysons (Contractors), Limited, for new ticket office and alterations to booking hall, Hamilton Square Station, Birkenhead.

Edward Wood and Sons, Limited, 70 Park Street, Derby, for warehouse for Mobil Oil Company.

D. Lynch, 862 Stoney Stanton Road, Coventry, for demolition of house and site work, Coventry Station.

Perishable Goods Building at Hither Green

A contract valued at £1 million has been placed with Taylor Woodrow Construction, Limited, by the British Transport Commission for the design and construction of a building at Hither Green, London, for use as a Continental perishable goods traffic building by the Southern Region of British Railways. It will be a reinforced concrete-framed main building, 1,000 ft. by 160 ft., with a second storey having a structural steel frame supported on two-thirds of the main building. Including ancillary buildings and the laying of some 4,000 yd. of siding track, the contract will take two years to complete.

D.B. Tractors for Cuba

A recent visit by Mr. David Brown, junior, general manager of the David Brown Tractor Division, to Cuba has resulted in the Cuban Government placing an order valued at £20,000 for an initial supply of the company's latest tractor, the David Brown 950, which was introduced last month. This order is additional to others already in hand by the company for Cuba.

British Convair Simulator for Swissair

Swissair has ordered an electronic flight simulator from Redifon, Limited, Crawley, to be used to train crews for its Convair 880 jet air liners. The simulator will be delivered in May, 1960, and will be used to train pilots and flight engineers of both Swissair and SAS (Scandinavian Airlines System). The Scandinavian company has already ordered from Redifon a Caravelle jet simulator on which Swissair crews will also train. It is planned to use the Convair 880 simulator for about 3,000 hours a year, reducing training flights on the aircraft to a minimum and thereby producing higher revenue-earning utilisation. Expenditure on crew training is also greatly reduced as an hour of simulator operation costs 15 to 20 times less than an hour's training flight on the actual aircraft.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

April 20—Union of South Africa.—City of Johannesburg for one MOTOR VEHICLE BRAKE-TESTING MACHINE suitable for axle weights up to 22,000 lb., driven roller type electrically operated. Tenders to the Town Clerk, Room 108, 1st Floor, Municipal Offices, Johannesburg. (ESB/8116/59.)

April 20—Iran.—International Co-operation Administration for three four-by-four 12-seat DUAL-PURPOSE VEHICLES for 6,000 lb. g.v.w. and four JEEP-TYPE VEHICLES. Tenders to G.S.A. Federal Supply Service, National Buying Division, 7th & D Streets, S.W. Washington 25, D.C. (ESB/8453/59/ICA.)

April 20 and 21—India.—Indian Railways for 8,800 ROLLER-BEARING AXLEBOXES, complete for 20-ton axle load goods stock (April 20) and 4,400 broad-gauge WHEELSETS, 20-ton capacity, completely assembled with solid wheels and axles, 1 metre dia. suitable for roller-bearing axleboxes (April 21). Tenders to the Director, Railway Stores, Railway Board, State Entry Road, New Delhi. (ESB/7637/59.)

April 22—Pakistan.—North Western Railway for 12 items of metallic VACUUM-BRAKE FITTINGS. Photocopies of tender documents from Export Services Branch, B.o.T., price 2s. (ESB/7636/59.)

April 22—Korea.—International Co-operation Administration for quantities of various items including MARINE LANTERNS, AIRWAY BEACONS, STORAGE BATTERIES, DIESEL GENERATORS and AIR COMPRESSORS. Photocopies of tender documents from Export Services Branch, B.o.T., price 11s. (ESB/7625/59/ICA.)

April 24—Union of South Africa.—Transvaal Provincial Administration for five 1,000-gal. MOTOR WATER SPRINKLERS. Tenders to the Chairman, Transvaal Provincial Tender Board, P.O. Box 1040, Pretoria. (ESB/7315/59.)

SHIPPING AND SHIPBUILDING

G.S.N. Studies Vehicle Ferries

USE of roll-on, roll-off ships for the trade with the near Continent is being studied by the General Steam Navigation Co., Limited. This was stated at the annual general meeting by Mr. R. G. Grout, the chairman. "But," said Mr. Grout, "we are by no means yet satisfied that this is a viable proposition if financed on sound commercial lines." "The building of new tonnage, even of the smaller type of vessel employed on our normal dry cargo trades," he went on, "is an extremely expensive operation and requires further time to consider what should be done in this connection. The small foreign trader and certain types of subsidised tonnage continue to offer keen competition which is the more severe because it falls in a period when there is generally less freight to be carried and when freight rates tend to decrease rather than improve."

Referring to coasting liner services on the East Coast, Mr. Grout said that in the postwar period these services had suffered severe competition at the hands of rail and road, besides which they had been faced with continually rising operating costs, increasing port charges and perpetual labour difficulties of various kinds. Since the financial year closed the G.S.N. interest in the London—Leith trade represented by London Scottish Lines, Limited, had been brought to an end, and the only coasting liner trade in which the company was now engaged was between London and Hull. The figures there for the current year, both of tonnage carried and of freight earned, were the lowest on record since the war, and the tendency was still in a downward direction.

Car-Ferry to Corsica

DESIGNED for the Marseilles—Nice—Corsica service, the car-ferry ship *Napoleon*, launched at La Seyne last week, is the first of her class to be employed between these points. She will have accommodation for 100 cars and 1,000 passengers, in three classes. To facilitate manoeuvrability, especially in the ports of Corsica, she is equipped with a Voith-Schneider variable-pitch bow propulsion unit of 300 h.p. Variable-pitch propellers are fitted aft. The ferry is powered by four Pielstick engines, each of 2,000 h.p., which are coupled together in pairs. On two of the four engines she will be capable of maintaining a speed of 14.5 knots, and on all four engines she will be able to achieve 18 knots.

First of New B.I. Cargo Ships

HANDED over recently to her owners, the British India Steam Navigation Co., Limited, the 17½-knot motor cargo ship *Bulimba* represents the ultimate result of months of planning and building. She is the first of five new cargo liners being built by Harland and Wolff, Limited, and incorporates many new and unusual features. The B-class will be modern in appearance, the most noticeable features being the position of the machinery—there being one hold aft of the engine room—the presence of a long poop and the arrangement of deck cranes and streamlined mast. A basic feature of the design is the attention that has been paid to the cargo handling arrangements. All-weather deck hatches are large and closed by single-pull MacGregor hatch covers arranged for push-button control while the tween deck hatch covers will be flush MacGregor pattern hydraulically operated and remotely controlled from the weather deck.

Railway Steamers for Sale

TWO Southern Region ships are shortly being offered for sale. They are the 865-ton *Whitstable*, built in 1925 and formerly employed on Channel Islands services carrying cargo, and the *Freshwater* (264 tons), a paddle steamer dating from 1927. She has been operating on the passenger and car-ferry service between Lymington and Yarmouth, I.o.W. New construction is replacing both vessels.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

F. Perkins

Trading in 1958 yielded F. Perkins, Limited, a net profit of £375,265 (loss of £310,236), after taxation £120,377 (credit £8,727). There is again no ordinary dividend (last, 10 per cent for 1956). General reserve receives £45,000 (same) and carry forward £337,565.

Vauxhall Motors

For the year 1958, profits of Vauxhall Motors, Limited, before tax, amounted to £1,120,872 (loss of £2,366,831). Net profits were £755,929 (loss £1,134,744) after depreciation and special tooling charges £3 million greater than in the previous year. There is again no ordinary dividend, however. Net sales rose by more than a quarter to more than £95 million. The number of units manufactured reached a new high level of 174,124 and exports were 22 per cent up at 103,411 units.

Follsain-Wycliffe Foundries

Following record figures of tonnage output, turnover and profit for 1957, says Mr. H. M. Jones, chairman of Follsain-Wycliffe Foundries, Limited, there were lower figures all round for 1958. The beginning of the current year has shown signs of improved trading conditions and if the increase in demand for products is maintained there is no reason to suppose that profits will show any further decline. Varatio-Strateline Gears, Limited, the subsidiary, achieved a record result. Turnover was substantially increased and the demand for its products is increasing.

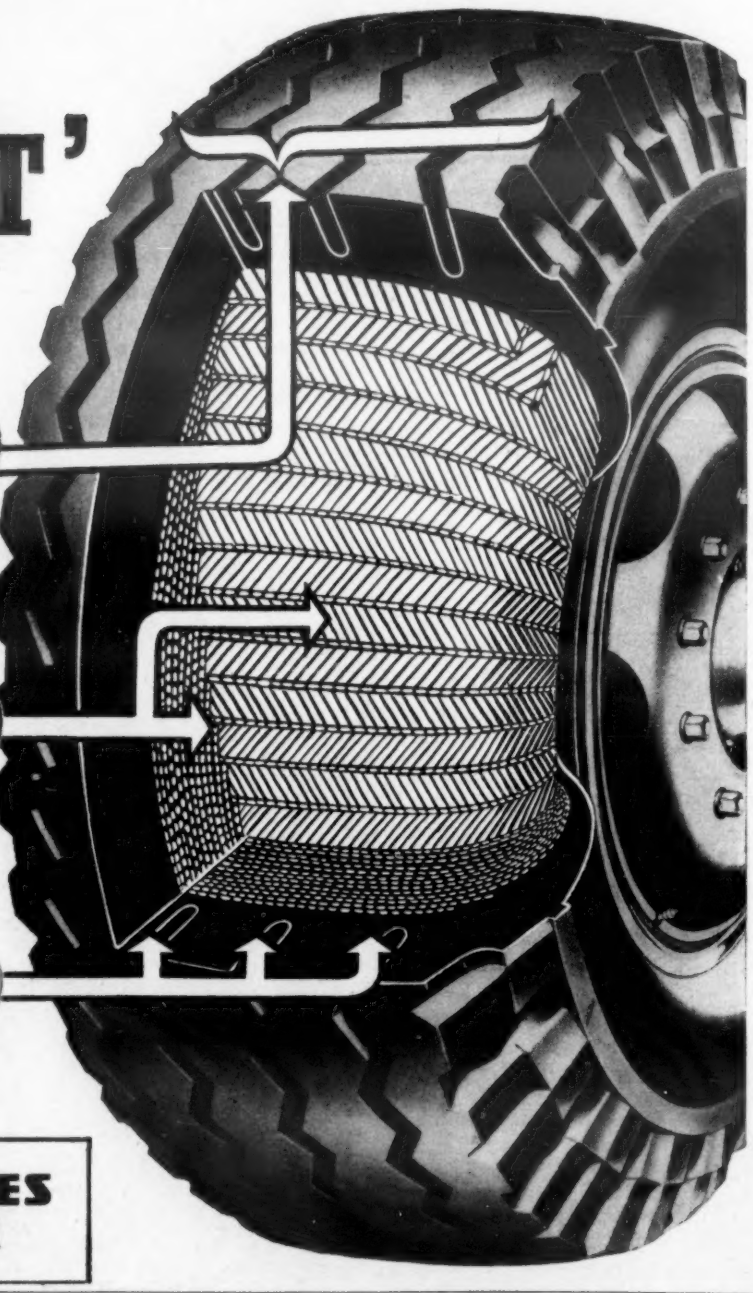
David Brown Offer in U.S.

Subject to the approval by Foote Brothers stockholders of a reclassification of the company's capital stock at a meeting to be held on May 6, the David Brown Corporation, Limited, will acquire a substantial minority interest in the Foote Brothers Gear and Machine Corporation of Chicago. The Foote Brothers organisation is celebrating its centenary this year and has undertaken a programme of expansion and diversification, the first step of which was the recent acquisition of the 60-year-old Whitney Chain Company of Hartford, Connecticut, manufacturer of precision roller and silent chain and sprockets. Foote Brothers pioneered the development of the enclosed gear drive in America, producing the first commercial unit in 1895. The affiliation with Foote Brothers offers the David Brown Organisation two highly important advantages according to Mr. David Brown. "To begin with it will make feasible the cross licensing of manufacturing rights for certain products in each of the two companies' lines," he said, "and permits world-wide distribution of these products under a combined David Brown-Foote Brothers name. Another important advantage will be the availability to the David Brown Group of the research and development and production knowledge of the Foote Brothers organisation and vice versa."

Firestone

'SUPER TRANSPORT'

A premium tyre for lower running costs



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45 Factories throughout the world.
Firestone total sales exceed £1,000,000 per day.

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Firestone TYRES
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Printed by Odhams (Watford) Limited, St. Albans Road, Watford, Herts, for and published by, Modern Transport Publishing Co., Limited, Russell Court, 3-16 Woburn Place, London, W.C.1.